

# Journal of the American Manual Medicine Association



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# A Publication of American Health Source

## Journal of American Manual Medicine Association

The Journal of American Manual Medicine Association was created to serve as a rational scientific voice for the Complementary and alternative health care community. The AMMA Journal is peer reviewed scientific publication. Articles and papers that are published in the AMMA Journal are presented in three main subject groups, editorial opinion, and scientific research, and legal, regulatory, and political events that pertain the medical massage and medical manual therapy professions.

Articles and papers written by outside contributors to AHS and Journal do not necessarily reflect the view or position of the American Manual Medicine Association or American Health Source.

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***From the  
editor...***



Dr. Gregory T. Lawton

Dear AHS Member:

In this issue you will find articles and research papers that have been submitted by the AHS membership. The purpose of this issue is to provide our members with an “inclusionary” experience by providing the ability to contribute directly to their professional journal, JAMMA. There is a noticeable lack of quality research and articles prepared and written by complementary and alternative therapists. One of the avowed purposes of JAMMA is to remedy this deficiency by giving our complementary therapy members a voice. This issue is dedicated to our members who have prepared papers related to the study and practice of complementary therapies. This issue is also, in a sense, a celebration of our Association’s diversity of interests and expression of opinions. Through these articles and papers, the contributing AHS members demonstrate that we are indeed an Organization of varied backgrounds and a broad membership base. As a member of the AHS, you have completed a concentrated program of study in complementary therapy and you stand at the highest pinnacle of the profession. To remain at the top you need to invest in your professional development on a daily basis. Since you are a complementary therapist there is simply no limits to the knowledge that you need and can acquire that pertains to the conditions that you treat and the practice skills that you need to master. Your acquired knowledge and abilities pertain to being able to sort out the numerous false doctrines, pseudoscientific theories and fringe practices of your profession so that you do not commit the ethical errors of other complementary therapists and so that you can select the most appropriate technique or treatment protocol for your patient. One of the primary purposes of American Health Source is to create a distinctive identity for our members through the actualization of the highest professional standards in the industry. Hopefully, it is the members of the AHS, through their professional conduct and high educational standards that will contribute to uplifting this noble profession.

Yours in good health,

Dr. Gregory T. Lawton



As a manual therapist, I enjoy the fact that I have the opportunity to learn and grow with every client that comes into my office. My fervent desire is that this educational journey would never end.

Through both the joys and storms of life there is impact on life; there are lessons to be learned; there is opportunity for growth.

As a practicing therapist and educator, I try to cultivate this same desire for growth with my clients and students on a daily basis. I am thankful that many have risen to the challenge.

The articles in this issue of JAMMA have been contributed by therapists just like you. They are individuals who understand that learning never ends, and have a hunger to grow and blossom to their full potential.

If you too wish to contribute to JAMMA, please feel free to contact me. I would love to hear what you have been researching and its effects on you and the clients whose lives you touch.

Thank you for the honor to serve you as together, we continue along this educational journey.

Christina Harangozo

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## **Submission Guidelines**

The Journal of American Manual Medicine Association is a peer reviewed scientific journal that publishes research and articles related to manual medicine.

### **How to Submit:**

- Potential articles must be an original contribution to, or report in, the field of medical massage and manual therapy. It must use objective evaluation criteria. Articles are subject to editorial and peer review
- Articles should be submitted by e-mail as a Microsoft Word or rich text format document to [info@americanhealthsource.org](mailto:info@americanhealthsource.org)
- Include your name, address and the best way to contact you

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## **Reflex Sympathetic Dystrophy Syndrome / Complex Regional Pain Syndrome (RSDS/CRPS)**

### **Dorla Nemeth**

What is Reflex Sympathetic Dystrophy Syndrome/ Complex Regional Pain Syndrome (RSDS/CRPS)?

Reflex Sympathetic Dystrophy Syndrome (RSDS) is known by many other names. These include Complex Regional Pain Syndrome (CRPS), Causalgia, Sudeck's Atrophy, and Shoulder-Hand Syndrome. I will be referring to Reflex Sympathetic Dystrophy Syndrome and Complex Regional Pain Syndrome as "RSDS/CRPS".

In the 19<sup>th</sup> century the Civil War veterans continued to experience pain after their wounds had healed, the condition was called "Causalgia". Doctors often called it "hot pain," after its primary symptom. Over the years, the syndrome was called Reflex Sympathetic Dystrophy Syndrome. A new taxonomy was formulated to include the terms Complex Regional Pain Syndrome Type I (formerly Reflex Sympathetic Dystrophy Syndrome) and Complex Regional Pain Syndrome Type II (formerly Causalgia.)

RSDS/CRPS is a chronic, painful, and progressive neurological condition. It is thought to involve abnormalities of the sympathetic nervous system, which is a network of nerves, located alongside the spinal cord. Sympathetic nervous system controls important body functions, specifically the opening and closing of blood vessels that regulate blood flow and the control of sweat glands that regulate temperature.

It is a complicated and misunderstood disorder, characterized by chronic, severe, often debilitating pain, and progressive changes in the skin, tissue swelling, muscle, joints, bones, and restricted or painful movement. Some of these changes include, but are not limited to, extreme sensitivity to light touch; severe burning pain; skin color and temperature changes; weakness; abnormal sweating; muscle atrophy and depression.

**CRPS Type I (RSD):**

Reflex Sympathetic Dystrophy Syndrome (RSDS) (recently reclassified as Complex Regional Pain Syndrome Type I) is a syndrome occurring in extremities and, when chronic, results in severe disability and untraceable pain. RSDS may be accompanied by neurologic symptoms even when there is no previous neurologic lesion.

There is or has been evidence of edema, skin-blood flow abnormality, or abnormal sweating activity in the region of the pain. If other conditions exist that otherwise would account for the degree of pain and dysfunction this diagnosis will be excluded.

**CRPS Type II (Causalgia):** This syndrome involves a definable major nerve injury.

What are the causes of RSDS/CRPS?

The actual cause of RSDS/CRPS is unknown, although the condition usually develops in an injured extremity, or following surgery. The disease can affect other parts of the body. In many cases, however, RSDS/CRPS can involve a minor injury, such as a sprain or even a sliver in a finger. Many other conditions may be associated with the development of RSDS/CRPS. These include infections, cancer, diabetes, disorders in the neck and lower back, thyroid disorders, lung disease, stroke, heart attack, brain disease, shingles, repetitive motion disorders (such as Carpal Tunnel Syndrome), and the use of certain medications. In some patients, the injury or an exact cause cannot be identified.

## Reflex Sympathetic Dystrophy Syndrome/Complex Regional Pain Syndrome

What are the stages of RSDS/CRPS?

Stage 1, the Acute Stage, lasts from one to three months. Some of the characteristics are skin color changes (usually from flesh tone to dusky purple) and temperature changes, sweating, severe burning pain, rapid hair and nail growth, edema, joint stiffness or tenderness, muscle spasm, limited mobility, abnormal amount of pain for the injury and increased sensitivity to touch, and vasospasm (a constriction of the blood vessels). Upon X-ray, some bony changes may be visible. Decreased sympathetic activity is present in this stage.

Stage 2, Dystrophic Stage, can last three to six months. Pain intensifies, is throbbing, burning, aching, and/or crushing in nature. This is made worse by changes in temperature or any other stimuli (breezes, air conditioning, or light touch, etc.). The affected limb may still be edematous, cool, look pale or waxy, discolored or mottled. Nails become cracked, brittle, grooved, and spotty. There is decreased hair growth, joint thickening, and muscle tone is weakened.

Short-term memory loss may begin to occur and X-Rays could reveal Osteoporosis. Pain may spread medially, for example, from the foot to the hip, or the hand to the shoulder. Increased sympathetic response activity is present in this stage.

Stage 3, Atrophic Stage, can last an unlimited amount of time. Pain can become severe or decreased, depending on the person. There can be irreversible changes to the skin and bone, muscle atrophy, and severe limited mobility. Contractions of muscles and tendons may cause limbs to twist. RSDS/CRPS may spread to other parts of the body. At this stage, skin becomes cool, thin, and shiny. X-Rays may show marked demineralization (removal of minerals or mineral salts from bone) and increased osteoporosis.

Many RSDS/CRPS patients are not effectively treated with nerve blockers. The majority of the pain signals are now originating in the brain not the original site where a local block would help. At this time, pumps are usually discussed but there are other treatments available and more are coming all the time.



Stage 4: Most patients will never advance to Stage 4. Many doctors would recommend a Pump or Dorsal Column Stimulator/Spinal Chord Stimulator (DCS/SCS) units for their patients because of the resistance to many forms of RSDS/CRPS treatment. There are problems associated with the use of SCS units for RSDS/CRPS patients due to the increased rate of infection.

1. Failure of the immune system, reduction of helper T-cell lymphocytes and elevation of killer T-cell lymphocytes.
2. Intractable hypertension changes to orthostatic hypotension.
3. Intractable generalized edema involving the abdomen, pelvis, lungs, and extremities.
4. Ulcerative skin lesions, may respond to treatment with I.V. Mannitol, I.V. Immunoglobulin, and ACTH treatments. Calcium channel blockers such as Nifedipine may be effective in treatment.
5. High risks of cancer and suicide are increased.
6. Multiple surgical procedures seem to be precipitating factors for development of stage IV.

Stage IV is almost the flip side of earlier stages, and points to exhaustion of autonomic and immune systems. Ganglion blocks in this stage are useless and treatment should be aimed at improving the edema and the failing immune system. Sympathetic ganglion blocks, alpha- blockers, including Clonidine, are contraindicated in Stage IV due to hypotension.

How is RSDS/CRPS Diagnosed?

RSDS/CRPS can be difficult to diagnose even though there are a number different ways to make a diagnosis. Diagnosis requires excluding other conditions that produce similar symptoms. A Neurologist who is educated in RSDS/CRPS is the best and most experienced doctor to diagnose this condition. If one is not familiar with treating RSDS/CRPS, serious problems and setbacks can result. There have been enormous strides in the last few years due to the rapid changes of information available. The best treatments for RSDS/CRPS are the least invasive.

A clinical diagnosis occurs when a physician observes the color and temperature of the skin, swelling, and vascular reactivity; overgrown and grooved nails; swollen and stiff joints; muscle weakness and atrophy.

...some physicians use thermography — a diagnostic technique for measuring blood flow by determining the variations in heat emitted from the body — to detect changes in body temperature that are common in RSDS/CRPS. A color-coded “thermogram” of a person in pain often shows an altered blood supply to the painful area, appearing as a different shade (abnormally pale or violet) than the surrounding areas of the corresponding part on the other side of the body. An abnormal thermogram in a patient who complains of pain may lead to a diagnosis of RSDS/CRPS. X-rays may also show changes in the bone.”

A thermogram is the use of a special infrared video camera to measure heat emission from the affected extremity. Some other tests include sweat testing, x-rays, and sympathetic blocks, which can be used to build up a picture of the disorder. Other conditions are ruled out with appropriate testing that may include triple phase bone scan, a full laboratory panel, electrophysiological studies of the nerves and muscles (e.g., EMG, NCV), and MRI scan. EMG and NCV tests can be used in combination and are often referred to as EMG/NCV studies.

Early recognition and prompt treatment provide the greatest opportunity for recovery and/or remission. A delay in diagnosis and/or treatment for this syndrome can result in severe physical and psychological problems. Delayed treatment of this disorder can cause it to quickly spread to the entire limb and changes in bone and muscle may become irreversible. Pain can persist longer than six months, sometimes for years in 50% of patients who are diagnosed with RSDS/CRPS.

Who gets RSDS/CRPS?

RSDS/CRPS can strike at any age, but has usually been more common between the ages of 40 and 60. Recent reports show that the number of RSDS/CRPS cases among adolescents and young adults is increasing. Children actually respond the best to the treatments. It affects women many more times than men, as many as 65 to 75 %. Approximately two to five percent of those with peripheral nerve injury and 12 to 21 percent of those with paralysis of one-side of the body will suffer from RSDS/CRPS.

How is RSDS/CRPS Treated?

A treatment plan that is designed based on duration and severity of the patient's symptoms should be put into place as soon as possible once the patient is diagnosed with RSDS/CRPS. Because RSDS/CRPS is so complex, a team of healthcare providers, including any combination of the following: pain consultant, internist, neurologist, an orthopedist, psychiatrist, rheumatologist, physical therapist, occupational therapist, and a massage therapist may be required to combine their efforts in the treatment process. Their focus is to normalize sensation, to minimize edema, promote normal posture, decrease muscle atrophy and increase independence in the areas of mobility, work, leisure, and Activity of Daily Living (ADL). It is also important to do weight bearing exercises. RSDS/CRPS is very frustrating for the patient as well as the medical team because the condition changes and spreads, causing new symptoms to appear. Physical therapy and rehabilitation to increase joint function and range of motion should be used throughout all stages of this condition. One of the most important things for a patient to do is to stay active and keep the extremities as mobile as possible. Daily exercise should always be a part of the pain management program. Some physical therapy techniques include electrical stimulation, light therapy, ultrasound, and Cranio-Sacral therapy.

The opportunity for early aggressive and productive treatment is often lost as healthcare providers focus on the mental state of the patient, who may be understandably

demonstrating signs of depression and anxiety due to severe pain and uncertainty about what is happening to him or her. Although psychological support is beneficial, a barrier can develop between patients and others if patients feel that others do not understand their pain or do not believe that it is as intense as they say.

Even when recognized and treated, RSD can progress and lead to a life of long-term disability with unremitting pain, muscle weakness, and loss of mobility due to permanent deformities. There have been cases of limb amputation from severe pain or life threatening infections; however, the RSD can still spread to other areas even after the affected limb have been removed.

#### Medical Manual Massage Therapy:

Massage therapy is practically indispensable for the treatment of CRPS/RSD, especially if the patient is undergoing trigger point injections, occipital nerve blocks, and paravertebral nerve blocks. Applying massage therapy immediately after having the above-mentioned nerve blocks disseminates the irritating chemicals (e.g., nitric oxide, substance P, and CGRP) away from the area that the nerve block insertion has released the encapsulated chemicals and thus helps the elimination of the irritating chemicals by massage as well as application of moist heat. This is similar to trying to clean a swimming pool that has not been touched for a year. Obviously, the pool is full of residuals of chemicals that have been accumulated in the pool. It is not enough to partially clean the toxic chemicals, but it also needs the flushing of the chemicals out of the pool. The massage does the job of flushing of the chemicals out of the encapsulated areas making the chemicals accessible to capillaries, which absorb the chemicals and excrete them through the kidneys.

Medical Manual Massage Therapy would include the following protocols in the treatment of a RSDS/CRPS client: range of motion (increase joint function), lymphatic drainage, thermo therapy, electrotherapy, actinotherapy, relieving muscle spasms, and a general massage protocol. The therapist must be in constant communication with the client, due to their extreme sensitivity to touch and the side effects from the medications they may be taking.

#### Heat vs. Ice

Moist heat is recommended such as hot showers, moist cloth, hot tub, paraffin wax bath, etc. Effectiveness depends on the individual but NEVER use ice. RSDS patients should not be treated with ice. It can make the RSD worse and/or spread. This is extremely important to know and to share with your therapist. Ice will only cause the blood vessels to shrink more, reducing the blood flow to the extremities and increasing the pain. Patients can actually have their RSD go into the next stage from repeated application of ice packs.

#### Nerve Blocks:

Blocks are generally used to relieve the pain symptoms associated with RSD/CRPS and include:

- Guenethidine
- Lidocaine
- Phentolamine IV
- Magnesium Bier Block
- Stellate Ganglion Block

Implant Devices and Surgical Treatments:

- Spinal Infusion Pump
- Morphine Pump
- Spinal Cord Stimulator

Hyperbaric Oxygenation Therapy (HBOT):

HBOT is the administering of pure oxygen at greater than atmospheric pressure by means of a pressurized chamber. It is a 100 year old treatment that has most recently been applied to RSDS/CRPS with much success. There are very few medical conditions that prevent the use of HBOT.

Sympathectomy:

Sympathectomy is controversial method of treating RSDS/CRPS. It consists of surgically cutting into the sympathetic nervous system along the spinal cord and removing a segment of the nerve.

Treatment Stages of RSDS/CRPS

Stage 1 (Early):

- Control the pain with peripheral nerve blocks
- Active or actively assisted therapy to establish joint motion
- Tens, EGS, or NSAID to reduce pain
- Elevate limb and home exercise program

Stage 1 (Late):

- Continue nerve blocks
- Long acting anesthetic agents
- Ultrasound
- Paraffin baths
- Deep friction massage to break vasoconstriction
- Oral tranquilizing or mood elevating drugs to control diathesis
- Oral vasodilator medication to control vasospasm
- Maintain therapy to prevent joint fibrosis

### Stage 2 (Early):

- Team therapeutic approach using a podiatrist, anesthesiologist, neurologist, internist, and physical therapist with CRPS experience
- Regional or sympathetic ganglion blocks to control pain
- Injectable sympathetic blocking agents to reduce vasospasm
- Powerful tranquilizers or mood elevators (diathesis)
- Continued physical therapy and all modalities
- Eliminate or curtail the use of caffeine, nicotine or alcohol

### Stage 2 (Late):

- Pain control with chemical indwelling catheter
- Use of oral corticosteroids
- Injectable sympathetic blocking agents
- Eliminate any primary cause of CRPS (nerve entrapment)
- Continue physical therapy and all modalities

### Stage 3:

- Repeat all of the above treatments and any combinations that appear to get results
- Referral for psychological evaluation when possible

### Recommended Diet

A healthy body requires a healthy diet. As in any other medical condition, what you eat will influence how you feel. A diet that consists of foods that are harmful to your health will aggravate chronic pain. The Four F diet is recommended for patients with RSDS/CRPS.

The Four F's (4 F's: Fresh fruit, fresh vegetables, fish, and fowl)

1. Fresh Fruit - not canned.
2. Fresh vegetables - Olive oil is the best cooking oil.
3. Fish - baked or broiled. Use fresh lemon juice for flavor. Avoid the use of margarine.
4. Fowl - skinned! Not fried - baked, roasted or grilled is fine.

Avoid the five C's: cookies, cake, chocolate, cocktails, and candy.<sup>1</sup>

RSDS/CRPS affects millions of people around the world. It is one of many diseases that doctors and researchers can identify but cannot identify the cause. The pain is related to the sympathetic response, from the sympathetic nervous system, but its origin is unknown. Disruption of the sympathetic response can cause a chain reaction throughout the patient's body. Pain is the primary symptom and it can cause the RSDS/CRSP patient to go from a healthy productive individual to one with chronic depression, chronic pain, loss of job, destruction of family, total disability, and financial disaster.

When the cause of the disruption to the sympathetic response is discovered, we will be closer to a cure. All that the medical profession can do now is to treat the symptoms. Medical manual massage therapists can provide the patient with muscle tone, and relaxation that helps with tension and stress. Early diagnosis and proper treatment are vital. Once diagnosed, it is extremely important to follow the doctors' advice carefully to reduce or prevent permanent damage from RSDS/CRPS. Take medication exactly as prescribed; and exercise and stretch regularly. Reducing stress is essential to RSDS/CRPS pain management. There is constantly new research and information to help RSDS/CRPS patients to live a more comfortable, productive life style.

- [www.neurology.org/cgi/content/abstract/51/1/20](http://www.neurology.org/cgi/content/abstract/51/1/20)
- [www.rsdrx.com/massage\\_therapy.htm](http://www.rsdrx.com/massage_therapy.htm)
- [www.rsd-arena.co.uk/6425/6452.html](http://www.rsd-arena.co.uk/6425/6452.html)
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- [www.rsdrx.com/stages\\_of\\_crpsrsd.htm](http://www.rsdrx.com/stages_of_crpsrsd.htm)

## **Bursitis**

### **Jennifer McCalley**

Bursitis is a common condition found mostly in adults, especially those who are over forty years old. On rare occasions you may see a child with bursitis, usually one who spends long hours playing video games can develop hand bursitis. The term bursitis relates to the inflammation or irritation of the bursa; found in joints. "There are 160 bursae in the body. The major bursae are located adjacent to the tendons near the large joints, such as the shoulders, elbows, hips, and knees" (Shiel). This paper focuses primarily on bursitis of the shoulder, an in depth review of common bursitis along with a case study of an individual with shoulder bursitis, will be used to highlight the use of manual therapy as a viable option for treatment.

#### **Anatomy of Bursitis**

Bursa are tiny sacs made of connective tissue, filled with lubricating fluid called synovial fluid. These bursae vary in size depending on location. They are located between tissues such as bone, muscle, tendons, and skin. The bursa sacs function as a gliding surface to help decrease rubbing, friction, and irritation between the tissues of the body. They allow bones, tendons, muscles, and joints to have maximum mobility. For each area bursa are located, there can be bursitis. There are six different types of Bursitis. The most common sites are under the shoulder muscles (called subacromial bursitis), at the elbows (called epitrochlear or olecranon bursitis), the hip sockets (trochanteric), heel bones (retrocalcaneal), the kneecaps (called infrapatellar bursitis), or the foot called Calcaneal bursitis. Although these are the most common bursitis occurrence bursitis can vary with each person, as it strikes the areas most used and irritated.

#### **Common Causes**

"Bursitis can be acute (a sudden, sharp pain following an injury) or chronic (a recurrent inflammation in the same area)" (2001). Bursa sacs can get inflamed due to nonarticular rheumatic process triggered by traumatic lesion, dislocation or a bacterial infection. Bursitis can also be caused by overuse or injury to the joint areas, incorrect posture at work or at rest, and poor conditioning before or after activity. Bursitis may sometimes be found "in association with other diseases or conditions, such as rheumatoid arthritis, gout, tuberculosis or psoriatic arthritis" (2001). When the bursas are irritated, inflammation sets in around the surrounding tissue. The swelling increases along with the pressure, creating pain and stiffness within the joint. Pain may be more intense with movement. Another common cause of bursitis occurs when the bursa are compressed on a regular basis, such as someone who sleeps on their side; placing a great deal of pressure on their shoulder or hip as they lay for a long period of time. Age also contributes in bursa inflammation. As tendons age they are able to tolerate less stress, elasticity and are easier to tear. High risk activities that involve repetitive movements include gardening, carpentry, painting, shoveling, tennis, golf, skiing,

throwing a ball, incorrect posture at work or at home can all increase the risk and can lead to bursitis.

## Symptoms

Symptoms of bursitis vary from person to person depending on its severity. Most symptoms “vary from an achy pain and stiffness to the local area of the joint, to a burning that surrounds the whole joint around the inflamed bursa. With this condition pain is usually worse after activity, and the bursa usually become stiffer the following day” (Bursitis). Other symptoms include “tenderness in the joint, swelling and redness in affected area and limited movement in the affected areas” (2001). Some people experience a gradual build up or a sudden severe pain, especially if there are calcium deposits built up in the joint. Other signs of bursitis are when the shoulder or joint becomes so stiff that it becomes restricted with movement/ loss of motion in joint. This loss of movement is sometimes referred to as “frozen shoulder” or “adhesive capsulitis”.

## Diagnoses

Bursitis is diagnosed usually by ruling out anything else that it could be, which “includes tendonitis, arthritis, ligament sprains, and any other problems specific to the joint or area being affected” (Massage). When diagnosing for bursitis a medical history and physical examination may be taken; these include the patients’ background with recent or ongoing activities and past or current injuries. During examination, palpational findings will be taken of the affected area, “localized pain, inflammation and a history of unusual strain or injury two or three days before the pain begins usually indicates bursitis” (2001). On rare occasions certain blood tests may be taken to confirm underlying conditions like rheumatoid arthritis.

## Treatment

Treatment of bursitis varies from person to person depending on how their body reacts to the treatment. Depending on how severe the condition determines the effectiveness of the treatment. In certain chronic situations it can take several months or even years to heal. Most cases of bursitis shows signs of healing within about two weeks, others take several weeks. Left untreated, bursitis can lead to frozen shoulder or stiffness in the joint or affected area. Other factors contribute in the treatment of bursitis; it depends on which bursa is inflamed.

The first thing needed to do with bursitis is to decrease the inflammation. Most people with bursitis are told to use NSAIDS (nonsteroidal anti-inflammatory drugs); like Motrin, Tylenol, Advil, Celebrex, or one of many others. NSAIDS are also used in chronic or acute stages of bursitis. Patients who use NSAIDS must be careful and check with there doctor if they have a history of ulcer, stoke, liver or kidney disease, heart disease, hypertension or coagulation disorders. If taken with any of these conditions the risk of serious side effects may increase. Once the initial inflammation and pain has subsided and is “under control a program of exercise, ice and heat, electrical stimulation,



ultrasound and massage is used to regain motion” (2007). If symptoms do not decrease a cortisone injection or a steroid shot may be recommended. This will be injected directly into the site of inflammation. The cortisone injection places medication to treat the inflammation directly at the problem area. The only side-effect to cortisone shots is that they can weaken the tendons within the joint capsule.

Some natural alternative medicines that may be taken to decrease the pain and inflammation are Mullen and turmeric. Adequate nutrition can also play a role in preventing and easing the effects of bursitis. “Vitamin C is critical to the repair of injuries. It speeds up cellular growth and repair and is important in the production of collagen, which the body uses to create connective tissue” (2000). Also vitamin A taken with zinc will help in tissue repair as well as reduce inflammation.

A patient with bursitis should make changes to their lifestyle if possible and work on changing their movements, try not to do repetitive movements that may irritate the bursa. The RICE technique (rest, ice, compress, elevate), is important if a person has just injured themselves or to help minimize inflammation in an area before or after physical exercise to help keep the bursa from being irritated. Always warm up the joint before and after exercising with slow movements, to help increase the fluid within the joint. Stretch without bouncing will help to prepare the joint for exercise.

Massage may also be very beneficial to someone suffering from bursitis. If the patient is not in an acute stage of bursitis, massage won't make it worse. If the bursas are too inflamed, then the muscles will be very tight around the affected area. A massage therapist will not help by loosening these muscles around the irritated joint because it is within the joint capsule. It is best for a massage therapist to wait until the inflammation has subsided; there will also be less pain for the patient this way. “In a sub-acute stage, a skilled massage therapist can address the muscles that cross over the affected joint and may well have some success at decompression the bones that are re-irritating the bursa” (Werner). With this in mind a massage therapist can also work with the movements of the patient to increase the synovial fluid within the joint providing increased movement for the patient. Stretches can be administered by the therapist to make sure the ligaments and tendons do not tighten up. It is recommended that a person who has bursitis use ice after stretches following an extensive work out. It is very important that the patient who is suffering from bursitis to not over do any form of exercise. This can lead to increased pain and stiffness.

## Shoulder Bursitis

The type of bursitis that I will be focusing on in this paper is sub-acromial bursitis, also known as shoulder bursitis. Bursitis may also be referred to as Impingement Syndrome. “Impingement Syndrome occurs when there is inflammation of the rotator cuff tendons and bursa that surrounds these tendons” (2007). This is why a person with a previous rotator cuff injury may develop bursitis. Shoulder bursitis “occurs when there is inflammation between the top of the humerus (arm bone) and the acromion (tip of the shoulder)” (2007). In between these bones are tendons and bursa that make up the

rotator cuff. “Normally, these tendons slide easily within this space. In some people this space becomes too narrow for normal motion” (2007) irritating the tendons and bursa making them inflamed. The tendons and bursa in this area begin to thicken, contributing to less space in the joint cavity. The space eventually becomes so narrow that every time these structures move between the bones they are pinched, creating pain.

Shoulder bursitis is very common in males around the age of fifty or older. It usually is caused by repetitive movements throughout the years. Some injuries like rotator cuff injuries can contribute to bursitis. If someone has shoulder bursitis they should avoid over the head lifting, throwing activities, and sleeping or sitting with the arms over or behind the head. Certain stretches and light exercises may be given after the inflammation has decreased. Ice, a use of Cyrotherapy is also found to be helpful in some cases of shoulder bursitis. Massage in treatment for bursitis is a local contraindication, especially in an acute phase. A massage therapist can try to loosen the tight muscles surrounding the joint, but loosening the muscles will not solve the inflammation problem. The first thing a massage therapist would need to do is to decrease the inflammation within the joint. In a sub-acute stage of bursitis, a “skilled massage therapist can address the muscles that cross over the affected joint and may have some success at decompressing the bones that are re-irritating the affected bursa” (Werner). A massage therapist can also work with the joint and the movements to help increase the synovial fluid within the joint to increase movement. Slow superficial movements have also been found beneficial.

### Medical Manual Therapy

What is Medical Manual Therapy? Medical manual therapy is loosely defined as a research based discipline designed to correct musculoskeletal disorders. A massage therapist may use different manual techniques to manipulate soft connective tissue and joint capsules. Therapists use an in-depth understanding of the human body along with the knowledge of anatomy, pathology, physiology, and soft tissue rehabilitation to treat specific musculoskeletal disorders. Medical manual therapists seek to treat patients with a holistic point of view; “the body likes what most like the body” using the homeosomatic response concept. Manual therapists will use different treatment techniques that are most like the body’s own natural healing mechanisms. In the following case study is a patient who suffers from sub-acromial bursitis. This shows how medical manual therapy was used to help in this situation.

### Conclusion

In conclusion to this paper, bursitis was greatly affected by the use of medical manual therapy. The patient above was able to return to almost full mobility pain free. As long as the patient wants to get better they can with the help of a massage therapist to guide them on they’re way to recovery. Medical manual therapy helped increase the synovial fluid with in the joint capsules and helped to reduce the friction of bone on bone. The pressure was relieved from the bursa and tendons and pain was no longer a problem.

Slow gentle movements work very well in the treatment of bursitis. As a massage therapist's point of view massage is a great treatment option for those who suffer from bursitis. The overall goals were met to decrease inflammation, increase range of motion and most of all to decrease pain and discomfort for the patient.

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# **Lupus and Massage: A Study of Traditional and Alternative Treatments**

## **Julia Tibbets**

### Introduction

The growing health problems in the United States and around the world are indicative of the energetic imbalance around and within all people. Western medicine has made many strides in treating illness and disease, but too often overlooks the ancient tradition of living and healing naturally. This imbalance is caused by many factors, including the following:

1. Our bodies are toxic because we put too many toxins in and do not flush them out fast enough.
2. Our bodies are nutritionally deficient. We do not get the nutrients we need and the nutrients we do get are not being absorbed.
3. Our bodies are exposed to electromagnetic chaos which affects it negatively.
4. Our minds trap mental and emotional stress.

Lupus diagnoses have increased rapidly since the disease was first discovered in the Middle Ages. Alternative therapies for lupus show a lot of promise for helping lupus patients deal with their pain and prevent flares of the disease. Massage therapy complements traditional and alternative therapies by alleviating muscle and joint pain due to the musculoskeletal effects of lupus on the body and promoting relaxation to reduce stress, and it is an important element in treatment planning for the lupus patient. It is important to understand what lupus is, how it works, what the symptoms are, what the prognosis is, and what medical treatment is available and in use. It is also important to explore the natural alternative treatments for lupus, specifically massage, to better understand the body's reaction to it and its possible benefits.

### An Overview of Lupus and Massage

Lupus is an autoimmune disease with no known cause or cure. It affects many different body systems. It has the potential to be life-threatening, but can usually be controlled with regular monitoring and adjustments of medication. Massage has been indicated by a number of sources as beneficial treatment for lupus patients. The benefits of massage on the body systems are extensive, which helps with many different manifestations of lupus in the body. In the circulatory system massage works to increase oxygen supply, decrease blood pressure, and increase circulation of the lymph nodes. It affects the digestive system by stimulating activity of the liver and kidneys and inducing the elimination of waste material from the body. Massage affects the muscular system by stimulating motor nerve points, relieving restlessness and insomnia, and relieving pain. The respiratory system benefits from massage because massage develops respiratory muscles and drains lymph nodes. It thereby affects the lymphatic system by cleansing the body of metabolic wastes. Massage works in the integumentary system by stimulating the blood to better nourish the skin and helping to normalize glandular

functions. Finally, massage affects the skeletal system by improving body alignment and relieving stiff joints.

Stress relief is also an important factor in the use of massage for lupus treatment. Stress ignites flares and may help trigger the onset of lupus. Life for the lupus patient only gets more stressful as they deal with the symptoms and diagnosis. It is important for them to incorporate daily stress relieving activities and substances into their lives, and massage is important for physical and mental relaxation.

### Classification and Definition of Lupus

There are different forms of lupus, but the most common form is systemic lupus erythematosus (which will further be referred to as SLE). "SLE is a chronic autoimmune disease that is sometimes fatal, as the immune system attacks the body's cells and tissue, resulting in inflammation and tissue damage. SLE can affect any part of the body, but most often harms the heart, joints, skin, lungs, blood vessels, liver, kidneys, and nervous system. The course of the disease is unpredictable, with periods of illness (called flares) alternating with remission. Lupus can occur at any age, and is most common in women, particularly of non-European descent. Lupus is treatable symptomatically, mainly with corticosteroids and immunosuppressants, though there is currently no cure."

Lupus is a pathophysiology, which is a disturbance of the normal functioning of the body. Lupus prevents cells from doing what they are supposed to do, or causes them to do things they aren't supposed to do, such as attack the body's musculoskeletal and joint structure.

### Types of Lupus

There are different types of lupus, including SLE. Drug-induced lupus erythematosus is one type that is caused by rarely given prescription drugs. These drugs create lupus symptoms in some patients. These symptoms disappear when the medications are stopped. Most of the medications causing this condition are for high blood pressure, heart arrhythmia, and epilepsy. The next type is lupus nephritis. This is an inflammation of the kidneys caused by SLE. Another type is discoid lupus erythematosus. This is a chronic skin disease that causes a red, raised rash on the face, scalp, or other areas of the body. One of the most common symptoms of lupus has been termed a "butterfly" rash, a rash across the nose and the cheeks. Sub-acute cutaneous lupus erythematosus "causes non-scarring skin lesions on patches of skin exposed to sunlight." The last type is neonatal lupus, which is:

"A rare disease affecting babies born to women with SLE, Sjogren's syndrome, or sometimes no autoimmune disorder. It is theorized that maternal antibodies attack the fetus, causing skin rash, liver problems, low blood counts, and heart block leading to brachycardia."

SLE can be broken down into two categories: non-organ-threatening and organ threatening. Non-organ-threatening SLE presents with symptoms of severe fatigue, dyspnea, fever, swollen glands and joints, muscle and joint pain, and rashes or other skin conditions. Organ-threatening SLE presents with the above symptoms along with involvement of the heart, liver, lungs, and kidneys. Organ-threatening SLE has a less favorable prognosis than non-organ threatening SLE.

## History of Lupus

SLE has been called “the great imitator” because the symptoms vary widely. It is often mistaken for other illnesses because of the variation and also because the symptoms are not constant. There are three periods in the history of lupus: Classical, Neoclassical, and Modern. The Classical Period includes the discovery and naming of lupus during the Middle Ages. At that time it was recognized purely by its dermatological symptoms. During the Neoclassical Period that began in 1872, recognition of the systemic manifestations of lupus occurred. The Modern Period began in 1948 with the discovery of the Lupus Erythematosus cell and has been characterized by advances in knowledge of pathophysiology and treatment of lupus. Now, in this Modern Period, the cases of lupus diagnosed are on the rise.

Women in the United States between the ages of 15 and 45 are most susceptible to lupus. It is estimated that 80-92% of the lupus population in the United States is female, although drug-induced lupus affects the sexes equally. Sex is not the only discriminating factor for lupus. Different nationalities are affected differently by the disease. American Indians, African Americans, and Asians have a higher incidence of lupus than Hispanics and Caucasians. This difference seems to have something to do with geography. Even with the different effects, lupus is on the rise globally and controlling it is proving difficult. The prognosis for lupus patients has improved in the last 60 years though. In the 1950's, most lupus patients died within five years of being diagnosed. Now, over 90% of patients live for more than ten years after being diagnosed and many live asymptotically. The most common cause of death related to lupus is infection due to immunosuppression as a result of medications used to manage the disease.

## Causes of Lupus

While the prognosis has improved, so has the search for a cause, although the exact cause of lupus is yet unknown. There are many theories in research at this moment, some of which are described here. Genetic links can sometimes be a factor in lupus. A child of a parent with lupus has a 5% chance of developing the disease, but if one identical twin develops lupus, the other one may not. The most important genes are located on chromosome 6, where mutations may randomly occur or are inherited. These findings have led researchers to believe that environmental factors are extremely important in the triggering and development of lupus. Environmental factors may exacerbate lupus or cause the initial onset. Environmental factors may include:

1. Certain medications (such as some antidepressants and antibiotics)

2. Extreme stress
3. Exposure to sunlight
4. Hormones (especially high levels of estrogen) estrogen-replacement therapy used to treat osteoporosis can increase the risk of lupus in some women.
5. Infections (although no specific bacteria or virus has been linked with SLE)
6. Toxins in food such as agricultural chemicals (pesticides), which have very strong connections to neurological symptoms. There is evidence that they may affect the immune system as well.
7. Drug reactions, including drug-induced lupus. This usually occurs in patients being treated for a long-term illness. There are about 400 medications currently in use that can cause this condition including: procainamide, hydralazine, and quinidine. When the medication is discontinued, the symptoms usually disappear.
8. Non-SLE forms of lupus - Discoid lupus is the most common and is usually limited to dermatological symptoms. A patient is not diagnosed with SLE if their antinuclear antibody (ANA) test is negative or low-titre positive. About 10% of DLE patients develop SLE.

## Symptoms of Lupus

As mentioned earlier, lupus can be difficult to diagnose because the symptoms vary widely. The most common symptoms have been described below. 65% of lupus patients suffer from dermatological symptoms at some point in their lives. Malar rash is the “butterfly” rash on the face and is one of the most common lupus symptoms. Discoid lupus is thick, red, scaly patches on the skin. These symptoms may also include: alopecia; mouth, nasal, and vaginal ulcers; and lesions on the skin. Dermatological symptoms may be exacerbated by sunlight. Musculoskeletal symptoms are extremely important for the massage therapist to pay attention to and help alleviate. Lupus patients most often seek medical attention for joint pain, particularly joints of the wrist and hand. Rheumatoid arthritis is a common dual diagnosis with SLE. About 80- 90% of lupus patients develop arthritis. Nonspecific muscle pain is also a common symptom.

Musculoskeletal symptoms are extremely important for the massage therapist to pay attention to and help alleviate. Lupus patients most often seek medical attention for joint pain, particularly joints of the wrist and hand. About 80-90% of lupus patients develop arthritis. Nonspecific muscle pain is also a common symptom. Hematological symptoms include an increased risk for anemia and iron deficiency and low platelet and white blood cell counts. Doctors suspecting lupus test patients for auto-antibodies and common findings include: antiphospholipid antibody and anticardiolipin antibody (which can cause a false positive test for syphilis). Cardiac symptoms include: inflammation of various parts of the heart (i.e., pericarditis, myocarditis, and endocarditis). Atherosclerosis occurs more often and advances more regularly in lupus patients than in the general population. Lupus is also associated with a specific clotting disorder that involves slow clot formation and dissolving which can lead to thrombophlebitis or pulmonary embolism. Pulmonary symptoms include: lung and pleura inflammation (i.e., pleuritis, pleural effusion, and lupus pneumoniti) and chronic diffuse interstitial lung disease (i.e., pulmonary hypertension, pulmonary emboli, and pulmonary hemorrhage).

Renal symptoms do not often present, but if they do they include painless hematuria or proteinuria. Acute or chronic renal impairment can develop with SLE, but because of early recognition and good management, end stage renal failure occurs in less than 5% of patients.

Neurological symptoms are seen in significant occurrence as well. About 10% of lupus patients present with seizures or psychosis and about one-third test positive for abnormalities in the cerebrospinal fluid. Other abnormalities and symptomatic manifestations include: increased and sustained calcium levels in T-cells, moderate increase of inositol triphosphate, and a clotting disorder that affects the reproductive system and can make it difficult to bring a child to term. Some women experience repeated spontaneous miscarriages.

### Diagnosis of Lupus

Because of the variety of symptoms associated with lupus it is difficult to diagnose. The American College of Rheumatology has put together a list of symptoms and manifestations in the body as criteria for a lupus diagnosis.

1. Malar rash: the “butterfly” rash on the face
2. Discoid lupus: red, scaly patches on skin which cause scarring
3. Photosensitivity: exposure to ultraviolet light results in a rash
4. Oral ulcers: includes oral or nasopharyngeal ulcers
5. Arthritis: non-erosive arthritis of two or more peripheral joints, with tenderness, swelling or effusion
6. Renal disorder: more than 0.5 g per day of protein in the urine or cellular casts seen in urine under a microscope
7. Neurological disorder: seizures or psychosis
8. Serositis: pleuritis (inflammation of the membrane around the lungs) or pericarditis (inflammation of the membrane around the heart)
9. Hematological disorder: hemolytic anemia (low red blood cell count) or leucopenia (white blood cell count <4000/ul), lymphopenia (<1500/ul), or thrombocytopenia (<100000/ul) in the absence of offending drug (i.e., drug-induced lupus)
10. Anti-nuclear antibody test positive
11. Immunologic disorder: positive anti-Sm, anti-ds DNA, anti-phospholipid antibody and/or false positive serological test for syphilis

The most common dual diagnoses with lupus are rheumatoid arthritis and fibromyalgia.

### Western Medical Treatment for Lupus

Western medicine has improved the diagnosis and treatment of lupus over the last 50 years. Most lupus patients are prescribed a combination of medications to prevent flares, which is adjusted depending on what stage of the disease the patient is in (flare or subacute). The most common drugs used to treat lupus are anti-malarials,



immunosuppressants, corticosteroids, and analgesics. Another therapy that has shown improvement in some lupus patients is UVA1 Phototherapy.

## Drugs

The first category of drugs to treat lupus is anti-malarials. The purpose of these drugs is mostly preventative to reduce the incidence of flares and also to lower the need for steroid use. The side effect of anti-malarials is a yellowish skin discoloration. The second category is immunosuppressants and corticosteroids. These drugs are used in more severe cases to control and prevent flares. Due to the side effects of these drugs, steroids are avoided if possible. The side effects include: obesity, diabetes, osteoporosis, puffy face, an unusually large appetite, difficulty sleeping, elevated blood pressure, and cataracts.

“Prolonged prednisone use, or high doses (30mg/day or greater), have been demonstrated to be a major risk factor for avascular necrosis. Musculoskeletal involvement is very common in SLE, and may include muscle atrophy or weakness, erosive arthritis, and osteoporosis. It is difficult to determine if these symptoms are a result of the disease or from corticosteroid usage.”

Two of the more common corticosteroids used are methotrexate and azathioprine. The next category of drugs used to treat lupus is analgesics. These are used to manage pain for the lupus patient. Doctors usually begin patients on non-prescription NSAIDs. If these are not enough to control the pain, they move on to prescription pain-killers. These include Darvocet, Tylenol #3, Vicoden, and OxyContin. The purpose of these drugs is to relieve chronic pain. The side effects include the possibility of chemical dependency and kidney and liver damage with long-term use.

## Other Therapy

In 1987 it was reported that ultraviolet radiation had a favorable effect on disease activity in SLE model mice. This led to the development of UVA1 Phototherapy. Devices administering this therapy are available in Europe. Despite the evidence that this therapy can help lupus patients with dermatological symptoms, it has not been approved for use in the United States by the Food and Drug Administration.

## Treatment Research

Treatment research is always on-going. New immunosuppressants are being developed and researchers are experimenting with autologous stem cell transplants. The Carolina Lupus Study is an ongoing study in its early stages. Some discoveries have already been made. The study is: “The first population-based epidemiologic study to examine the influence of hormonal and occupational exposures, in addition to genetic factors affecting immune function and metabolism, on systemic lupus erythematosus. The results of the analysis of occupational exposure to silica dust in relation to risk of SLE were striking: a dose-response across levels of exposure, with an approximate two-fold

increased risk in the medium exposure category and a four-fold increased risk in the high exposure category.”

## Natural Alternative Therapies for Lupus

There are many natural alternative treatments for lupus as well. Because of the side effects and the possible causes, many lupus patients do not want to put more chemicals in their bodies. Western medicine says lupus is not known well enough to be prevented, but alternative therapies can help to reduce pain and prevent flares of the disease for the diagnosed patient.

## Diet and Nutrition: Possibly Harmful Factors

Diet and nutrition play a big role in the prevention of the onset of lupus and flares. Following are dietary factors that are possibly harmful to lupus patients. Excess protein has been found to exacerbate lupus. Protein restriction is a standard treatment for renal failure, and many lupus patients have kidney damage, even if they do not exhibit physical symptoms of this. One of the easiest ways to restrict protein is to eat less animal products. A vegetarian diet usually automatically reduces protein consumption. The worst type of protein comes from beef and dairy products. High fat, especially saturated and Omega-6 polyunsaturated fatty acids, is dangerous for lupus patients as well. Diets high in fat were associated with more severe autoimmune disease and decreased life span in mice (compared to a control group). It has been recommended that lupus patients eat very little or no animal protein, work up to taking one or two tablespoons of flaxseed oil each day, and stop eating margarine, shortening, mayonnaise, and commercial salad dressings (or anything with hydrogenated or partially-hydrogenated oils). It is also recommended that lupus patients do not eat more than 20 percent of the calories they consume as dietary fat. Everyone should buy all oils stored in glass, not plastic, to avoid contamination of the oil from the container. Foods high in Omega-6 fatty acids include beef products and dairy products. Next, high levels of zinc consumption have been found to be harmful for lupus patients.

“It has been suggested that zinc deprivation results in increased serum corticosteroids which may contribute to the decreased number of autoimmune disease symptoms.”

Foods high in zinc include: beef, crabmeat, oysters, turkey, port, brown rice, salmon, spinach, beans, and yogurt. Excess iron may be harmful to the lupus patients.

Researchers theorize that excess iron may enhance the Haber-Weiss reaction causing free radical damage of the tissue. This may contribute to the chronic joint and muscle pain experienced by lupus patients. Foods high in iron include beef and greens. While studying the cholesterol-lowering effect of alfalfa seeds (L-Canavanine) researchers observed signs of SLE-like symptoms in laboratory animals and a few human case studies.

“In vitro experiments suggest that L-canavanine, an amino acid in alfalfa products, acts on suppressor-inducer T cells to regulate antibody synthesis and lymphocyte proliferation.”

## Diet and Nutrition: Possibly Beneficial Factors

Other dietary factors are possibly beneficial to the lupus patients. The first is vitamin E. Free radical damage plays a big role in the pathogenesis of SLE and is a huge factor in the inflammatory disease process. This suggests rheumatoid arthritis and lupus patients may benefit from additional supplementation of antioxidants, such as vitamin E. Foods rich in vitamin E include wheat germ, whole grain breads, and avocado. Vitamin A is the next beneficial dietary factor. "Vitamin A-deficient SLE animals were reported to experience more severe lupus-like symptoms."

"Supplementation of vitamin A at 100,000 IU daily for two weeks showed beneficial immune responses in 10 women who participated."

Foods rich in vitamin A include apricots, broccoli, greens, cantaloupe, mango, dried peaches, carrots, tomato, and winter squash. Selenium has been found to be beneficial as well. It is a natural antioxidant with anti-inflammatory properties. "There is a significantly higher level of natural killer cell activity in selenium-supplemented mice." Foods high in selenium include asparagus, garlic, mushrooms, and seafood. The next beneficial dietary factor is fish oils. They appear to have an anti-inflammatory effect and have prolonged the life of autoimmune-prone mice. "Life span was significantly longer in mice supplemented with fish oil, and symptoms of renal damage and lymphoproliferation were delayed compared to the control group. It should be noted that fish oil delayed the onset of the lupus symptoms, but the mice eventually succumbed to the same kidney problems and eventual death as the control group, although at a slower rate." Bromelain is the next positive dietary factor. It is a complex of proteases from the pineapple plant that is an anti-inflammatory agent. Evening Primrose has also been reported to increase survival time in autoimmune mice. Flaxseed is another beneficial factor. Humans given 30 grams of flaxseed mixed with cereal or tomato or orange juice were found to have improved renal function, decreased proteinuria, decreased serum creatinine, and increased creatinine clearance. Plant herb (*Tripterygium wilfordii* hook F or TWH) has been used in China for more than 200 years to treat lupus and rheumatoid arthritis. DHEA supplementation has also been found to be beneficial to lupus patients. DHEA is a steroid molecule manufactured by the cholesterol-pregnenolone pathway and is an intermediate to androstenediol and androstenedione, which have the potential to become either estrone or testosterone. It has been found to have immunoregulatory effects such as: enhancing IL-2 and subsequent proliferation of T-helper 1 cells and decreasing anti-DNA antibodies in mouse models, resulting in a decrease in pro-inflammatory cytokines.

"In humans, a double-blind, placebo-controlled study of 28 SLE patients taking DHEA (200 mg/day) for three months resulted in decreased lupus flares, SLE Disease Activity Index scores, disease activity (assessed by physicians and patients), and prednisone dosages. The researchers observed only mild acne as a side-effect and concluded that DHEA may be a useful therapeutic agent for the treatment of mild to moderate SLE."

## Beneficial Alternative Activities and Therapies for Lupus

There are also activities that have been recommended as possibly beneficial to the lupus patient. These include:

1. Tai chi
2. Wellness breathing
3. Hypnosis
4. Neurolinguistic programming
5. Biofeedback
6. Progressive relaxation
7. Massage
8. Acupuncture

### Massage for the Treatment of Lupus

When using massage as part of the treatment plan for a lupus patient, there are factors that must be taken into consideration before treatment. First, the therapist must make sure the patient has been cleared by her or his doctor for massage therapy. Stress levels, medications (especially analgesics, muscle relaxers, and corticosteroids) and when they were last taken, and skin conditions (especially rashes) must be carefully monitored. Massage is contraindicated during certain stages of lupus. The massage therapist should avoid circulatory massage during acute episodes or flares, as this puts unhealthy stress on the cardiovascular system. Treatment in the subacute phase should focus on stress reduction, muscle and joint pain relief, and reduction of edema and inflammation. Modalities included in the treatment should be gentle and not have any synthetic components. Hydrotherapy, cryotherapy, and thermotherapy are all indicated for use with a lupus patient depending on how he or she presents. The patient should work with his or her doctor to formulate an exercise plan that includes general strengthening exercises as well as area-specific exercises to treat areas of the greatest pain or weakness. Home stretches should include gentle stretches the patient can easily perform while practicing deep breathing.

In a case study drawn from three treatments with a lupus patient who had not had a massage since her diagnosis, massage was found to be a good form of treatment for lupus. A positive change was seen in the patient's range of motion and she also reported that the stress relief was helping her feel better. Joint physics helped reduce the pain and inflammation in her shoulder joints.

### Conclusion

Alternative therapies for lupus show a lot of promise in helping lupus patients deal with their pain and prevent flares of the disease. More research should be and is being done involving long-term effects of massage therapy for lupus patients. Because the symptoms patients usually first seek treatment for are musculoskeletal symptoms, massage is key in the treatment of lupus. It also plays an important role in prevention by reducing stress, which is a major factor in the flares. Massage therapy complements traditional and alternative therapies by alleviating muscle and joint pain due to the

musculoskeletal effects of lupus on the body and promoting relaxation to reduce stress, and is an important element in treatment planning for the lupus patient.

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## Osteoarthritis

### Lisa Clark

The name osteoarthritis comes from three Greek words: -osteo, meaning of the bone; -arthro, meaning joint; and -itis, meaning inflammation. Osteoarthritis is a debilitating disabler of joints in the body. It can have a devastating effect on those who suffer from it. This paper will discuss many aspects of osteoarthritis including: the definition of osteoarthritis, the different kinds of arthritis, how osteoarthritis is diagnosed, its functional limitations, its various treatment options, and how two patients with osteoarthritis are coping with its moderately destructive effects. It will be shown that a multi-tiered approach is a more effective treatment for osteoarthritis than any one step alone.

To understand how osteoarthritis affects a joint, there must be an understanding of what a joint is and does. A joint occurs where two bones meet and move on one another. Ligaments hold the separate bones together. They keep the bones in place while the muscles around the joint move the joint. Cartilage covers the ends of the bones and stops the bones from rubbing against one another. The joint is also surrounded by a capsule, or *joint cavity*. This cavity is contained by a synovial membrane and is filled with synovial fluid. The synovial fluid both lubricates, and provides nutrients to the joint and cartilage that helps the joint move smoothly (Arthritis Care). There are many other components to a joint; however, this simplified explanation gives a sufficient understanding of how a joint functions.

Arthritis is the “inflammation of a joint, usually accompanied by pain, swelling, and stiffness, and resulting from infection, trauma, degenerative changes, metabolic disturbances, or other causes” (Arthritis). Arthritis is often referred to as a single disease, but actually is a collective term for more than 100 medical conditions that affect joints in the body. Many forms of arthritis can affect the entire body, not just the joints, and can cause organ or system failure. For the most part, however, arthritis affects the muscles and bones (Arthritis Foundation).

The two most common forms of arthritis are rheumatoid arthritis and osteoarthritis. This paper will focus mainly on osteoarthritis, however a brief description of rheumatoid arthritis will aid in differentiating the two.

According to Ruth Werner, “rheumatoid arthritis is an autoimmune disease in which immune system agents attack synovial membranes, particularly of the joints in the hands and feet. Other structures, such as muscles, tendons, blood vessels, and serous membranes also may be affected” (114).

Symptoms of rheumatoid arthritis include, but are not limited to: inflammation of the joints, including pain, redness, swelling, loss of range of motion, and heat; a general feeling of illness which includes little to no appetite or energy, a low-grade fever, and muscle pain which slowly gets worse; and small painless bumps called *rheumatic nodules* appear around fingers, elbows and other locations. When inflammation is

present, the affected joints can be very stiff. Rheumatoid arthritis most often affects the joints in the fingers and toes, but can also appear in the ankles, wrists, knees, and neck. Rheumatoid arthritis will usually affect both sides of the body, but one side can be worse than the other (Werner 115-16). Joints may eventually be deformed and can become dislocated or collapse causing the joints to become useless. If the disease occurs in the neck, and the joint collapses, paralysis may occur (Werner 116).

Osteoarthritis is caused by the loss or deterioration of the cartilage between bones, especially in weight-bearing joints like the knees and hips. It can also affect joints in the hands and feet (fingers, thumbs and toes) and the spine (neck and lower back). It is the most common type of arthritis and is also known as degenerative joint disease or *osteoarthrosis* (National Institute of Arthritis and Musculoskeletal and Skin Diseases).

Osteoarthritis currently afflicts as many as 21 million Americans, and in 2004 the total cost of the disease was estimated at \$60 billion (Perlman, et al 2533). More than 50 million Americans will have osteoarthritis by the year 2020 (Perlman, et al 2553). Osteoarthritis “is the most frequently reported chronic condition in the elderly population. The Centers for Disease Control and Prevention highlights osteoarthritis as a chronic condition that causes more physical limitation than lung and heart disease and diabetes mellitus” (Perlman, et al 2553).

Osteoarthritis is a progressive disorder that causes bone to rub against bone once the cartilage protecting the joint is worn away. This rubbing can cause bone spurs or cysts to form as well (Wright 1502). Osteoarthritis also limits ambulation when it occurs in the knee or hip and once there is a total cartilage loss, joint replacement may be necessary. Osteoarthritis typically develops gradually over a number of years, and may often occur on only one side of the body.

The cause(s) of osteoarthritis are idiopathic or unknown. There are two types of osteoarthritis – primary and secondary. Each of the types has different factors that may contribute to the development of osteoarthritis.

“Primary osteoarthritis results from abnormal stresses on weight-bearing joints, or normal stresses operating on weakened joints” (Wright 1503). Primary osteoarthritis may be associated with the following factors: some gene mutations; obesity, which puts strain on the weight-bearing joints; age, which affects the ability of cartilage to heal itself; also enzyme disruptions, bone disease or liver dysfunction may trigger osteoarthritis (Wright 1503).

Secondary osteoarthritis may result from sudden or chronic injury to a joint. This type of osteoarthritis can occur in any joint, not just a weight-bearing joint. Secondary osteoarthritis may be associated with the following factors: trauma, which can include sports injuries; repetitive stress injuries; repeated episodes of gout; poor posture; developmental abnormalities in bone alignment; and metabolic disorders (Wright 1503).

Initial symptoms of osteoarthritis include minor pain, which can be relieved by rest, mild stiffness in the morning, which dissipates about 30 minutes after walking, stiffness can also occur after sitting for extended periods. Other initial symptoms of osteoarthritis are swelling or tenderness in a joint, a crunching feeling, or the sound of bone rubbing against bone. Pain increases gradually until it becomes intolerable and causes disability (Wright 1503; National Institute of Arthritis and Musculoskeletal and Skin Diseases). “Osteoarthritis is the most common reason for total hip and knee replacement” (Felston, et al 636). Osteoarthritis makes it difficult to walk, get into and out of chairs and bathtubs, and climb stairs. It may also limit bending and cause weakness or numbness in the arms and legs.

Osteoarthritis has many effects that are not physical, as well. Having osteoarthritis can cause changes to lifestyle and finances. Many people suffer from depression, anxiety, and feelings of helplessness after their diagnosis. They have limitations placed on their jobs and daily activities, including their personal and family responsibilities. The cost of treatment and the money lost from missed work have a large impact on their finances and mental health state (National Institute of Arthritis and Musculoskeletal and Skin Diseases).

There is no single test to diagnose osteoarthritis. Doctors use several methods to detect the disease and rule out other problems. Most doctors begin by taking a medical history - osteoarthritis tends to run in families – and performing a physical examination. The physical exam will look for the symptoms of osteoarthritis which again include joint swelling or tenderness, loss of range of motion, joint damage caused by bony growths, the absence of fever or rash, and clicking, cracking, or grinding noises heard during joint movement (Wright 1503; Arthritis Foundation).

X-rays, MRIs and CT scans may also be used for diagnosis of osteoarthritis, but can prove inconclusive because joint damage often does not show on an image. Doctors also use a test called *joint aspiration* (or arthrocentesis). “This involves draining fluid from the joint for examination. The fluid will be examined for evidence of crystals or joint degeneration” (Arthritis Foundation).

Once a diagnosis is made treatment for osteoarthritis can begin. “The goals of osteoarthritis therapy are to retard the destructive process, preserve joint structures, control pain and swelling, maintain mobility, minimize disability, and ultimately improve the patient’s quality of life” (Mihailescu, et al 234). There are many treatments available for osteoarthritis from both conventional and alternative medicines. Most patients, as their progression continues, often use a combination of both therapies. Only 40% of patients who use alternative medicine tell their primary care physician about it. This is because the patients feel either the doctor does not know enough about the alternative treatment to offer advice, or they believe there is no reason to inform their doctors, or they are afraid their doctors will disapprove (Grober 197). Unfortunately, this can cause several problems if there are any interactions or complications as a result of the combination of treatments.



Conventional medicine offers many treatments for osteoarthritis, both good and bad. A combination of treatments is often used to get the best results. Exercise is an important part of any treatment plan for osteoarthritis. Exercise can improve mood and outlook, decrease pain and swelling, increase range of motion and flexibility, improve blood flow, and maintain weight. Walking, swimming, and water aerobics are good exercises for those with osteoarthritis of the knee or hip. Other treatment options include rest and relief from stress on joints, non-drug pain relief such as hot or cold applications, a TENS unit, physical or occupational therapy, and bracing (using braces to stabilize the joint) (National Institute of Arthritis and Musculoskeletal and Skin Diseases; Arthritis Foundation).

Surgery is often used as a last resort treatment option. Surgery is performed for three reasons: There is severe joint damage; there is extreme pain; there is very limited range of motion in the joint. There are three main types of joint surgery performed on people with osteoarthritis: arthroscopic surgery, osteotomy, and joint replacement surgery.

Arthroscopic surgery is inserting a tube with a light and camera through a small incision. Images are transmitted to a monitor where doctors evaluate how to help the joint. Tissue samples can be taken, loose cartilage removed, tears can be repaired or a rough surface can be smoothed.

Osteotomy literally means, “to cut bone”. This surgery is performed to increase stability by redistributing the weight on the joint. It is used in patients with knee or hip osteoarthritis on one side of the body and who are too young for joint replacement surgery.

Joint replacement surgery is the reconstruction or replacement of a joint. The joint is removed, the ends of the bone refinished, and a man-made joint replaces the original. The new joint will usually last 20 to 30 years. This procedure is generally recommended for patients over 50 who have severe joint damage (Arthritis Foundation).

Medications are the most widely prescribed, and the most controversial treatment for osteoarthritis. The side effects of many of the drugs include: stomach or other gastrointestinal distress; including diarrhea, heartburn, ulcers, bleeding, and stomach or intestinal perforation; kidney problems; heart attack; stroke; and fluid retention (National Institute of Arthritis and Musculoskeletal and Skin Diseases; Arthritis Foundation).

There are many types of medications for osteoarthritis. Analgesics, such as acetaminophen (Tylenol) relieve pain without relieving inflammation or swelling. These drugs have fewer side effects and can be taken orally or applied topically as a cream or rub. Nonsteroidal anti-inflammatory drugs, or *NSAIDS*, such as ibuprofen and aspirin reduce pain, swelling and inflammation. COX-2 drugs (Celebrex and Vioxx) are targeted NSAIDS that do not cause stomach irritation like traditional NSAIDS. These drugs are prescribed for moderate to severe pain. NSAIDS and COX-2 drugs are associated with the potentially serious side effects mentioned previously (Arthritis Foundation; National Institute of Arthritis and Musculoskeletal and Skin Diseases; Wright 1504).

Two other treatments for osteoarthritis are injectable glucocorticoids and viscosupplements. Injectable glucocorticoids are steroids that are injected directly into the joint for quick, targeted pain relief. Only 3 to 4 injections are given per year to a single joint. Viscosupplements are only used for osteoarthritis of the knee. A series of injections of hyaluronic acid – a substance found in the body that gives joint fluid its viscosity – is given over a number of weeks (Arthritis Foundation; National Institute of Arthritis and Musculoskeletal and Skin Diseases).

Alternative medicine treatments for osteoarthritis are often combined to produce maximum results. There are a wide variety of treatments to choose from, some better than others. A few alternative treatments are beginning to gain acceptance within the medical community. While scientific studies are just starting to support some alternative therapies, controversies still exist. This section will attempt to provide a balanced look at both the positive and negative aspects of alternative therapy for osteoarthritis.

Multiple sources confirm the benefits of glucosamine and chondroitin sulfate (National Institute of Arthritis and Musculoskeletal and Skin Diseases; Arthritis Foundation; Wright 1504; Mihailescu, et al 234; Grober 197; Felson, et al 728). In simplified terms, they are a part of the basic building blocks for articular cartilage (Mihailescu, et al 234). It is unknown exactly how glucosamine and chondroitin sulfate work. What is known, however, is that it takes approximately one month for these supplements to build up in the body. Once that happens, people often report pain relief similar to that of NSAIDS (Arthritis Foundation). Some possible cautions include: glucosamine is an amino sugar, so patients with diabetes should carefully monitor blood sugar levels; patients taking blood thinners should have their blood clotting checked more frequently because chondroitin sulfate acts like the blood thinner heparin; and allergic reactions to shellfish may occur because glucosamine is extracted from crab, lobster or shrimp shells. As with any alternative therapy, patients should discuss the risks and benefits with their doctors (Arthritis Foundation; Grober 198).

Other alternative treatments for osteoarthritis include, but are not limited to: acupressure, acupuncture, aromatherapy, traditional Chinese medicine, and magnets. Acupressure and acupuncture have been used for pain relief for centuries. Aromatherapy uses essential oils such as peppermint to relieve pain and decrease inflammation. Rosemary is also used to relieve pain and relax muscles (Rowland and Odle 1161). Chinese medicine uses a variety of topical and ingestible treatments to help relieve pain and inflammation (Rowland and Odle 1161). Magnets may increase blood flow and block pain signals, although there is no reliable evidence to support these claims (Rowland and Odle 1161; Grober 200).

Tai chi and yoga are ancient forms of exercise. “Unlike exercise programs with a ‘no pain, no gain’ philosophy, movement therapies, such as yoga, tai chi, and qi gong (chee kung), encourage the patient to increase levels of fitness and flexibility within his or her own limits” (Roberts 167). Tai chi consists of a series of exercises and movements that increase range of motion, strength, and balance. It allows patients to perform weight-

bearing exercises in a controlled manner, which might decrease joint pain and swelling, and increase mobility. Yoga involves breathing control and postures. Osteoarthritis patients can realign their skeletal structures and loosen stiff joints using these postures. Yoga proponents believe that the frequent joint motion associated with the postures reduces fluid pressure, which preserves cartilage that would be lost by immobilization, however there are no studies to prove this as of yet (Grober 199).

Massage therapy has been found to be effective for many musculoskeletal conditions. "Massage therapy may diminish symptoms and improve the course of osteoarthritis by increasing local circulation to the affected joint, improving the tone of supportive musculature, enhancing joint flexibility, and relieving pain" (Perlman, et al 2533). It is also "safe and effective for reducing pain and improving function in patients with symptomatic osteoarthritis of the knee" (Perlman, et al 2536). The Perlman (et al) study suggests that massage has benefits that last for weeks following treatment, is well tolerated by those with osteoarthritis, and decreases pain and improves function (2537). Of course massage therapy should not be performed when there is inflammation present, but it can help reduce swelling and pain, and can greatly increase range of motion, flexibility, and blood flow to the affected joint when the inflammation is no longer present (Rowland and Odle 1161; Perlman, et al 2533; National Institute of Arthritis and Musculoskeletal and Skin Diseases). "Massage therapy has been ranked third among the most frequently used forms of alternative healthcare" (Roberts 168).

Herbal supplements are among the most accepted and yet controversial treatment options for osteoarthritis. Herbs were used for thousands of years as the only medicine available, and indeed many of our modern medicines came from these old herbal remedies. Many proponents argue herbal supplements are natural and less harmful than modern pharmacology. On the other hand "very few herbals have been examined in randomized, double-blind, placebo-controlled trials" and the United States "federal government does not mandate controlled testing of herbal supplements or their by-products" (Grober 200).

Some herbal supplements marketed for osteoarthritis are: aloe vera, barley grass, devil's claw, DHEA, echinacea, garlic, ginseng, hawthorne, kava kava, lavender, licorice, St. John's wort, and yucca root. Many of these herbal supplements can have serious side effects. Devil's claw can cause abortion. Garlic can cause diarrhea, and anorexia. Licorice may cause heart arrhythmia. Many herbal supplements have also been found to contain a number of contaminants including aluminum, arsenic, diazepam, lead, mercury, thallium and zinc to name a few. It is important to check with the German Commission E body to see which supplements are safe (Grober 201). Often when patients combine herbal supplements with conventional medications adverse reactions can occur. It is extremely important for patients to discuss everything they are taking with their doctors so no interactions occur and any unusual symptoms can be resolved fruitfully (Grober 200).

Osteoarthritis is a painfully debilitating disease. As discussed throughout this paper there are many things with which people who have osteoarthritis must learn to cope.

Two clients, “Tom” and “Bill” are currently living with osteoarthritis. Tom and Bill each have osteoarthritis in both of their knees and lower back. Bill also has osteoarthritis in his right hand. They have similar jobs, which caused the wear and tear, and repetitive use injuries that lead to the development of osteoarthritis. Their functional limitations pain levels, and range of motion are nearly identical. Both have had surgeries to relieve pain. The choices they have made for treating their osteoarthritis were vastly different. These similarities and differences make Tom and Bill ideal candidates to compare and contrast with the concepts presented in this paper.

For his treatment, Tom used NSAIDS (Motrin) and massage only. Bill used an analgesic (Tylenol), glucosamine and chondroitin sulfate, massage, and exercise. After 15 treatments, Tom showed only mild improvement, while Bill was moderately improved. At the end of 30 treatments, Tom was moderately improved, with less pain and better mobility, but he was still taking Motrin for pain, and he still had difficulty bending. Bill, after 30 treatments, showed amazing improvement. His pain was gone and he was no longer taking Tylenol. His range of motion was nearly back to normal, and he had lost the 20 pounds he wanted to lose.

In all fairness, with Tom being 10 years older than Bill, the progression of his osteoarthritis was probably further along than Bill’s. This may have affected their outcomes somewhat. Yet Bill’s results cannot be denied. Making the supplement and exercise a part of his treatment program had a major impact on his results. Therefore, a multi-step approach to treating osteoarthritis is more effective than one step alone.

## **Disk Herniations**

### **Rachel Martin**

As a disc degenerates, it can herniate (the inner core extrudes) back into the spinal canal, which is known as a disc herniation (or a herniated disc). The weak spot in a disc is directly under the nerve root, and a herniated disc in this area puts direct pressure on the nerve, which in turn can cause pain to radiate all the way down the patient's leg to the foot. A disc herniation occurs when the inside of the intervertebral disc (nucleus pulposus) tears its way through the posterior outer portion of the disc (annulus fibrosis) and invades the space where the delicate neural structures reside (i.e., the anterior epidural space). The presence of this nuclear material in the anterior epidural space may irritate these neural structures, which in turn may cause the patient to suffer severe back and/or leg pain. Approximately 90% of disc herniations will occur at L4- L5 (lumbar segments 4 and 5) or L5- S1 (lumbar segment 5 and sacral segment 1), which causes pain in the L5 nerve or S1 nerve. L5 nerve impingement from a herniated disc can cause weakness in extension of the big toe and potentially in the ankle (foot drop). Numbness and pain can be felt on top of the foot, and the pain may also radiate into the rear.

#### Different types

"Disc Herniation" (or 'disc prolapse') is a broad and general term that includes three specific types of disc lesions. These are classified based on the degree of disc disruption. The three main classifications of disc herniation are Protrusion (contained herniation or sub-ligamentous herniation), Extrusion (non-contained herniation, or transligamentous herniation) and Sequestration (free fragment). (More will be shown and described in the illustrations)

#### Who gets it

Usually you will develop any kind of herniation from too much stress put on that part of the body. The same is true with disk herniations. People who try to lift too much all the time and who bend too much or stay hunched over will develop a bulge because the disk has to adapt to the spine and pressure accordingly. Sometimes we can push it too far all of a sudden or we can, over time, bend, tighten and loosen until it will burst. Disk herniations have nothing to do with your family history/genetics (unless you have degenerative or other bone problems).

#### Signs and symptoms

Even when a disk is in the beginning stages of herniation (bulge) it compresses on the spinal cord and spinal nerves which makes them not work properly. Some of the symptoms this could cause include: Electric shock pain, tingling and numbness, muscle weakness, and bowel or bladder problems. Electric shock pains are abnormal sensations caused from the pressure on the nerve. You can experience these down your arms when the compression is in the cervical region or down your legs when the

compression is in the lumbar region. Tingling and numbness is just a secondary sign to electric shock pains and are usually in the same region. Muscle weakness usually comes from nerve irritation and missed signals to and from the brain to that area. This is one of the easier symptoms to use when trying to diagnose a herniated disk without using equipment, instead you just test reflexes in the areas where you have weakness and or pain. Lastly, bowel and bladder problems are very important in this diagnosis because it is a sign of cauda equine syndrome. This should always be the “last straw” when you notice any other of these symptoms in conjunction with it because this is considered a medical emergency and could progress to much worse very quickly.

## Causes

When we “round” our backs or flex our spine forward it puts a lot of pressure on the spinal disks. This is why we need to try to keep a straight or arched back especially during swings and dead lifts. If too much pressure is applied for the disk to support then the “disk gel” breaks and pushes out. It then will press against the sciatic nerve and cause local pain and pain in the extremities. Basically, any fall or accident and constant strenuous activity or position on the spine directly will cause you to have a slipped or herniated disk.

## Treatments/surgery options

Generally for patients who do not have any symptoms like loss of bowel or bladder control, loss or impairment of their neurological state or worsening of their pain nonoperative care will work just as well as surgery. Usually they will be prescribed and NSAID (nonsteroidal anti-inflammatory) to reduce the inflammation and pressure lessening the pain and other symptoms. Otherwise, a non-invasive technique would be an endoscopic discectomy or laser discectomy. Treatment for severe symptoms and sciatica issues is best to think about a traditional open discectomy or micro discectomy. This is a surgery done to remove the herniated part of the disk from the spinal canal. The surgical treatment of removing the fragment of spinal disk is to remove the pressure which is causing the side affects. This is a procedure where the surgeon uses a small incision and looks at the actual herniated disk in order to remove the disk and relieve the pressure or you can go with a newer and less disruptive method which is an endoscopic discectomy where the surgeon uses special instruments and a camera to remove the disk particles causing the pressure through small incisions. The incision usually covers about a 3 centimeter length over the center of your back. Then the surgeon carefully removes muscles from the bone and removes a small amount of bone and ligament from the back of the spine. (This is called a laminotomy) Once that is finished they can now see the spinal nerves and finds the herniation. They remove just the fragmented pieces and depending on what the remaining disk looks like more may be purposely removed to prevent less hassle in the future. Once they have cleaned out all of the bad pieces you are closed and bandaged. Both of these surgical options are done under general anesthesia. They take about an hour depending on the size of the patient and the extent of the herniation. This procedure is always done with the patient lying on the table prone with their spine at good reach. You do not want to jump into

deciding to have surgery unless you have major problems or you have the beginning stages of these symptoms, but you do not want to wait any longer than one year before having the surgery or you could just be adding to your existing problems.

## Prevention

Try to always make sure you are doing all your heavy lifting, weight training, and exercise with your back straight. Always consciously stretch out your back, hip and thigh muscles because anything tight may cause you to curve your back or use one side more than another and put pressure on one side more than another creating the resistance and bulge.

## How manual therapy/medical massage can help

Manual therapy or medical massage can greatly help in any stage of a slipped or herniated disk. In the beginning stages of the herniation process we can help by massaging and loosening up the muscles all around the bad disk and all the muscle that attach in that surrounding area. By doing this we can hope to correct any postural problem or muscular pull problem and in turn stop the pain all together by stopping the disk from getting any worse. We can also help in the later stages when the disk is beyond any first chance procedures and needs surgery by massaging the areas where the symptoms and pain go to. We can help the process of living with the pain go smoothly until more help is done.

## Conclusion

Slipped or herniated disks can happen to anyone of any age, weight, sex, or background. But if we are all aware of how we use our back everyday and how we even stand, we should all have no problems. As long as we just take care of ourselves and at the first sign of any of these symptoms get some sort of care until we can correct them we should be able to avoid a rupture and surgery. Disk problems can be very problematic and can affect almost all parts of your body just from one source area. Medical massage can be a great asset to anyone in the beginning stages or recovering from a disk problem.

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## **Scoliosis**

### **Teresa Leasure**

Imagine your child comes home from school with a note from a Doctor, was at the school screening for Scoliosis, stating that she has Scoliosis. The first thing may be that this was just a school nurse or doctor that was giving the scan and this is nothing to be concerned with, or you can search and find out what the note says. Scoliosis is something that should not wait to be diagnosed. Taking a look at Scoliosis from what is it, to who could have to, or even what are the different types of treatment for this. Scoliosis is a lateral curve of the spine. About 80% of Scoliosis cases are idiopathic. Nonstructural and structural are two types of Scoliosis. Nonstructural Scoliosis is a curve of the spine, with rotation and is reversible due to the causes of the underlying conditions. These conditions include:

- Pain or muscle spasm
- Inflammatory condition. i.e. appendicitis
- A difference in leg length

The second type of Scoliosis is structural. This is a curve in the spine, with rotation, but this is irreversible usually because of its underlying conditions. These conditions include:

- Disorders present at birth
- Nerve or muscle disorders
- Injuries
- Infections
- Tumors

Taking a look at how Scoliosis happens will help us better understand what it is. Children start showing signs of a Scoliosis curve around age 8-10. Although most cases are mild, there is the chance of the curve to get worse. In the case of a mild case of Scoliosis, there is a small curve and this doesn't get worse. The small curve normally doesn't cause any pain, but the doctor will check these patients every four to six months. Those who have a more severe case of Scoliosis will continue to get worse without treatment. The curve in the spine gets worse as the patient goes through growth spurts.

As Scoliosis becomes more severe, the spine will rotate toward the inner part of the spine. If the upper thoracic part of the spine is affected, this may cause some deformity in the ribs. The ribs may start to "pop" or make a hump in the back. In very severe cases if the deformity of the ribs are too large, this may cause the air flow to the lungs to decrease. Also this may make it harder for the heart to pump blood to the rest of the body, causing the heart to fail.

In some rare cases some babies are born with or develop Scoliosis within the first three months. This is also called infantile Scoliosis. This will sometimes fix itself as the baby grows, or it may become worse. This is detected early enough to start treatments. Scoliosis is detectable by performing tests or exams. Some of the tests and exams the doctors will perform are:

- History and Physical – including a forward-bending test
- X-Ray of the spine
- Risser sign- measurement that helps determine the risk of a curve getting worse
- Screening done at school

These tests are done to help with early detection which leads to earlier treatments. Now that we have discussed some of the tests, and what Scoliosis is, let's look at who Scoliosis affects. Scoliosis is commonly found in females more so than in males. This also could be something that is passed down from generation to generation. Along with that others that may be at risk for Scoliosis are people who are missing or have an abnormally short arm or leg, or people who have disorders related to tissue development while in the womb.

There are some studies that are stating that Scoliosis and low bone density are directly related. Some may say that osteoporosis is what causes Scoliosis in the first place. The weakening of the bones is a known cause of Scoliosis. In a study of women with osteoporosis, 48% of them had scoliosis, a statistically significant relationship.

The treatment for Scoliosis can vary between massage therapy, bracing, and in the most severe cases surgery. Starting with the most severe treatment, there is surgery. With surgery the orthopedic surgeon places a rod in your spine that helps correct the spine. There is no need for the patient to have to wear a brace after surgery. They are in the hospital for about 10 days and then released to go home. If the patient is a child the doctor may advise not going back to school for about a month, but there is some intense physical therapy that will be done over the course of recovery. After returning to normal daily life the patient is advised that they should not be involved in any contact sports. The surgery is done if there is no other form of treatment. Most of the time surgery is done to help with the quality of life and help with any future complications.

The patient may opt for bracing. The doctor would then fit them for a back brace and the patient would have to wear this for a long period of time. Bracing in some cases could help prevent the curve in the spine to continue and save the patient from having surgery. The brace does not take away the curve completely this just helps stabilize the curve.

Other forms of treatment may be physical therapy or massage therapy.

These two forms of therapy are working at helping with the muscle tissue and strengthening. The muscles around the curve in the spine are going to be over stretched or tightened. Massage therapy can help bring the muscles back to a "normal"

state. It isn't going to correct the curve but it can help prevent the curve from getting worse. Massage can also help with pain management. Techniques like bony lever and laminar groove work can help the vertebrae shift or realign.

A treatment plan for someone who has Scoliosis and is seeing a Massage Therapist, will involve some home exercises and stretches. While in the treatment FETE and other forms or technique may be used.

If Scoliosis goes untreated the spine could eventually buckle under all the added pressure and the continual loading a person put on the spine. A person who has severe Scoliosis and lets it go untreated could have problems later on in life that could result in respiratory and cardiac problems or even death.

With early detection and early treatment along with the different types of treatments, this gives patients a better understanding on what they can do to help prevent their Scoliosis of a mild turn into a severe case. The patient can decide what they would like to do with this treatment and this will help them in maintaining a long and healthier life.

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