

Wellness of the Low Back

Core Principles—*How To Minimize Injury and Maximize Proper Function of the Low Back.*

From a nagging twinge, to a spinal disc herniation, injuries to the low back (lumbar spine) can be very debilitating, causing restriction of movement and in some instances causing pain to radiate into other areas of the body.

Low back pain is one of the most common disorders affecting adults. It is estimated that over 80% of adults will at some point in their lives experience symptoms of pain related to the lumbar spine. Where do low back problems stem from? Low back pain can originate from many different factors related to the human body. The low back is essential for providing many of the body's movement patterns and is thus capable of moving in all three planes of motion. Loss of movement in one or more of these planes within the low back certainly causes the quality of life to deteriorate.

Unlike many other species which are quadrupeds (walking on four legs), humans move in bipedal locomotion which causes gravity to compress on the vertebral disks. This causes the lumbar spine to support a good majority of the body's weight. Problems can arise from a number of different areas including postural alignment, muscle imbalances and lack of flexibility.

This month's newsletter explores the common problems associated with the lumbar spine and also offers helpful tips on maintaining a strong core to facilitate a healthy standard of living.



Over 80% of adults experience a significant amount of low back pain.

Our Mission is to provide personalized rehabilitation, fitness training and sports performance in an environment that leads to client involved, functional improvement from metabolic, neuromuscular and orthopaedic impairments.

Sports Conditioning and Rehabilitation

871 S. Tustin Avenue
Orange, CA 92866
714-633-7227
info@scarfitness.com
www.scarfitness.com

In the Gym

Firing on All Cylinders: Defining Core Strength

[Home Page](#)
[In The Gym](#)
[Off The PT Desk](#)
[The Athletes Corner](#)
[Nutrition](#)
[Exercise of the Month](#)
[Upcoming Events](#)

One of the most neglected parts of our bodies to exercise is the low back. Nevertheless, it is one of the most important areas to keep fit in order to maintain a healthy and active lifestyle. To develop a strong back, one needs to develop strong core muscles. A term that has been used loosely throughout the fitness industry has been '**core strength**'. Most people will assume that this newly coined term means to attain stronger abdominal muscles. The core actually represents all the muscles located in the trunk of the body. Subsequently, a person who is only doing crunches or sit-ups to attain core strength wouldn't be effective in doing so. The core needs to be trained in various planes and treated as if it were a cylinder instead of a one sided wall. Training the trunk muscles in this this fashion helps to maximize strength and stability in the core. Many of the muscles within the core can be engaged simultaneously with the addition of an exercise ball. Listed below are a few basic exercises on how to help strengthen your core:

- 1. Prone Ball Plank:** Start off by placing the knees on the floor (shoulder width apart) and placing the forearms onto the ball. Keep the hips tucked in and do not allow the chest to have contact with the ball. There should be a 45° angle from head to knees. While maintaining this position, allow your forearms to slowly move the ball forward approximately 6-8 inches, then bring back to starting position. A set of 12-15 repetitions is recommended.



Prone Ball Plank

- 2. Supine Ball Bridge:** Allow the head, neck and shoulders to rest onto the top surface of the ball. Place feet flat on the ground and slightly wider than shoulder width apart. Tilt hips up towards the ceiling. Hold for 30 seconds or until fatigue.



Supine Ball Bridge

- 3. Sidelying bridge:** Start by lying onto side of the body and place elbow onto the floor directly underneath the shoulder. While maintaining this position, keep the top foot stacked on top of the bottom foot. A staggered foot position, where one foot is front of the other can also be applied if the stacked position is too difficult. Proceed by elevating the hips upwards while keeping the body in a straight line. Hold this position for 20 seconds or until fatigue.



Sidelying Bridge

Always remember that having a strong core is essential for maintaining proper low back function. In order to have a strong core, multiple exercises that target the core as a cylinder rather than only a front and back side are vital in maintaining stability throughout the body. If you have any questions related to these exercises, please see a SCAR staff member.

Off The Physical Therapy Desk

Benefits of the ATM2 Machine

Home Page

In The Gym

Off The PT Desk

The Athletes Corner

Nutrition

Exercise of the Month

Upcoming Events

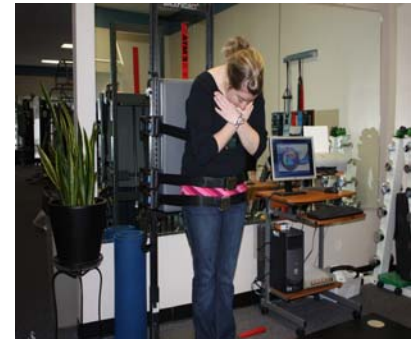
As many of you might have already found out, low back pain is a major public health problem. If you have never experienced low back pain first hand, I'm sure you are aware of a friend or a family member who has. A fairly new treatment technique that the staff at SCAR has been using to treat chronic and acute back pains is the concept of **active therapeutic movement** (ATM).

You may have seen some of our physical therapy patients on this medieval looking contraption in the therapy room. The ATM2 machine is equipped with buckled straps and ratchets that adjust in tension depending on the patients needs. This machine has shown to improve pain free range of motion and increase function and tolerance levels for activities of daily living. The ATM2 is designed to allow individuals who are suffering from acute or chronic spine pain to be able to extend backwards, bend forwards without pain while isolating muscles and joints along the spine that are in need of treatment. The patient performs 1-2 minutes of comfortable exercises while standing erect as well as being supported by the straps of the ATM machine. Clients will then complete isometric strengthening exercises in this stabilized, pain free position.

Thorough research has proven that decreased range of motion is detrimental to the function of injured tissues. People suffering from back pain will develop weakness and limited movement in the spinal musculature as a result of pain and spasm. The purpose of the ATM2 machine is to allow a way for our patients to re-establish proper function without pain or the risk of increasing damage to the surrounding tissues. Restoring motion enhances not only local tissue healing but also improves neurological influences.

The ATM2 has a unique capability by enhancing central nervous system activation of the muscle tissue. Combining active movements in a functional, weight bearing position against an isometric resistance, causes the central nervous system to memorize the normal muscle activation pattern. Patients that use this machine typically feel improvements in range of motion and strength after only one treatment.

If you or someone you know is currently experiencing pain and spinal dysfunction, see the physical therapists at SCAR to determine if the ATM2 machine can be beneficial in restoring functional movement ability within the low back.



The ATM2 machine is designed to increase low back function for activities of daily living.

The Athletes Corner

Nicole's Story

Home Page

In The Gym

Off The PT Desk

The Athletes Corner

Nutrition

Exercise of the Month

Upcoming Events

Two years ago I was lifting a piece of equipment at work, something I've done countless times before, and in an instant my life drastically changed. I felt sharp pain shoot down my leg into my foot. I didn't think much of it until a few minutes later when a deep painful throb developed in my lower back. I went to the doctor and the diagnosis was lumbar disc displacement. The first four months after the injury I was in constant, intense pain. The pain was somewhat eased when I laid down, but still present to the degree that I was taking prescription pain medicine and muscle relaxers daily. After the pain subsided to the point that I was able to return to my job, I still had to lie down on lunch breaks and immediately after work because of the pain. After two years I still

occasionally experience flair-ups, but in general, the pain seems to be slowly improving. Most days I can live a fairly normal life, but I am careful to avoid certain things that I know make my symptoms worse.

Probably one of the most difficult aspects of this injury was the way my lifestyle changed as a result. Being physically active has always been a significant part of my life. I played soccer in college, and was still playing on a team at the time of the injury. I also played ultimate Frisbee with a group of friends almost every Saturday. I love hiking, mountain biking, swimming and running. My involvement in those things was abruptly interrupted by the injury.

Exactly one year from the time of the injury I was able to jog short distances, mountain bike, and swim. But I have learned through trial and error that for now, my body is like a checking account, allowing only a certain amount of "checks" to be written each week. Working full time eats up a lot of those "checks". If I do too much physical activity, I overdraw my account and my symptoms worsen. This being the case, I discovered that it is still very important to figure out the amount of exercise that my body can handle and do it regularly. This improves my mental health and keeps my back strong. It is easy to get discouraged when this injury seems like it will never completely heal, and I sometimes think about what the future might hold if it worsens. There is an ancient Jewish proverb that states, *A merry heart does good, like medicine, But a broken spirit dries the bones.* I have learned that this is so true. My physical and emotional health is enormously better when I focus on the positives, not worrying about what might or could happen. Rather than dwelling on what I can't do, I have learned to find joy in the physical activities I can do right now, while still hoping someday things will get better.

Lumbar disc disease and other causes of back pain are common among athletes and non-athletes alike. Many of these injuries heal over time, allowing people to return to the activities they love. The difficulty is that the healing process is often long and painful. Everyone heals at different rates, and every story is different, but the same key to regaining strength after this type of injury is true for all. Our recovery and health is tied directly to hope and joy. Find joy in the things you *can* do, and live as if tomorrow will be a better day.



Nutrition, The Missing Link

Nutrition and the Low Back

[Home Page](#)[In The Gym](#)[Off The PT Desk](#)[The Athletes Corner](#)[Nutrition](#)[Exercise of the Month](#)[Upcoming Events](#)

Good nutrition and a balanced diet are a important components of your overall health including the health of your low back. Proper nutrition and eating a balanced diet that includes the right amount and variety of vitamins and nutrients can reduce back problems by nourishing the bones, muscles, discs and other structures of the spine. It will also give your body what it needs to heal itself, minimize the level of inflammation that is in your body, repair tissues, fortify bones, and keep cells healthy.



Vitamin A, an antioxidant, for example, assists the immune system in fighting diseases. It can also aide in the repair of tissue and in the formation of bone; both of which are good for your back. Other important vitamins and nutrients include, but are not limited to, vitamin B12, vitamin C, vitamin K, iron and magnesium. Each is necessary for healthy development in your body.

Water is one of the most important “nutrients” you feed your body. It helps your body regulate body temperature and provide the means for nutrients to travel to all your organs. Hydrating properly before and after a workout can facilitate the body’s high demands as we exercise. Doing so helps maintain performance at an optimal level.



Consuming too many calories and eating relatively unhealthy foods can increase the likelihood that you will also be a bit heavier than you should be. Common sense tells us that the more we weigh, the more stress is placed on our spine as well as other joints.

Overall, pain medications can help alleviate pain for the short term, but do nothing to help the body heal itself. In fact, some of these drugs can have severe negative side effects, eating right is an excellent alternative. Proper nutrition, including the right vitamins and nutrients, can reduce back pain and problems by nourishing and healing the bones, muscles and discs.

Exercise of the Month

Home Page

In The Gym

Off The PT Desk

The Athletes Corner

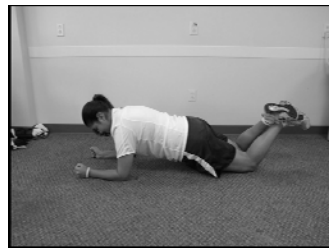
Nutrition

Exercise of the Month

Upcoming Events

Plank Exercise

The Plank Exercise is one of the best core muscle exercises and is easily modified to every level and has a good progression to follow.



Plank 1

- Lie flat on stomach
- Press up on elbows and knees.
- Keep abdominal Muscles tight and back straight.
- Hold for 10-60 seconds.



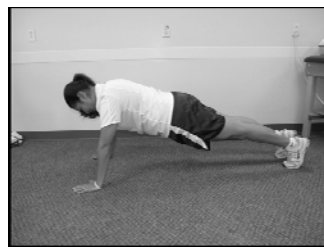
Plank 2

- Lie flat on stomach
- Press up on elbows and toes.
- Keep abdominal Muscles tight and back straight.
- Hold for 10-60 seconds.



Plank 3

- Lie flat on stomach
- Press up on elbows and toes.
- Keep abdominal Muscles tight and back straight.
- Extend one arm and opposite leg.
- Hold for 10 seconds and switch sides.



Plank 4

- Lie flat on stomach
- Press up on hands and toes.
- Keep abdominal Muscles tight and back straight.
- Hold for 10-120 seconds.
- Perform 5 times



Plank 5

- Lie flat on stomach
- Press up on hands and toes.
- Keep abdominal Muscles tight and back straight.
- Extend one leg and hold.
- Hold for 10 seconds and switch sides.
- Perform 5-10 times



Plank 6

- Lie flat on stomach
- Press up on hands and toes.
- Keep abdominal Muscles tight and back straight.
- Extend one arm and opposite leg.
- Hold for 10 seconds and switch sides.
- Perform 5 times

Pointers:

- Assume a **proper** push up position. Your back should not be arched in any way.
- When taking your leg off the floor do not arch your back. You should feel your gluteal muscles kick in rather than putting strain on your back.
- Make sure that your back remains flat at all times that you are moving your arms and legs.

Upcoming Events

Home Page

In The Gym

Off The PT Desk

The Athletes Corner

Nutrition

Exercise of the Month

Upcoming Events

Mark your calendars!

May 4-8, 2009

SCAR celebrates it's 2nd year Anniversary!

Activities during the week will include:

2nd annual "Tri-at-the-Gym"

Train the Trainer

Bring a friend for free

And much more.....

Sunday, May 3, 2009

6:00 am

Irvine Spectrum

Help Us Reach for the Cure!

Join SCAR raise money for
Pediatric Cancer Research.
Join our team and raise
money yourself while training
for a 5K, 10K or 1/2 marathon
or simply support one of our
team members.

