

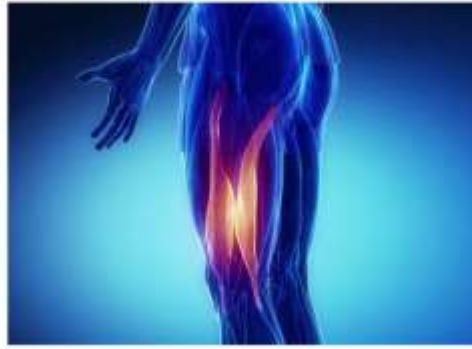
Sciatica: An Integrative Approach

A Balanced Footprint for Prevention and Treatment

Ekemini Felix, Medical Research Journalist

Diana Rangaves, PharmD, RPH, Editor





"Always make a total effort even when the odds are against you."

~ Arnold Palmer

"If you have the knowledge, let others light their candle in it."

~ Margaret Fuller

Copyright

Attribution: If reproducing information provide a link to ClinicalConsultantServices.com and properly credit the author.

Disclaimer

The information provided is only to inform and should not be considered as a professional medical advice. Please consult your health care provider for advice about specific medical conditions or using anything listed in this eBook. This eBook contains information from different sources that are reputable and duly cited.

Table of Contents

Chapter 1 ~ Standing with Health	5
Chapter 2 ~ Understanding Sciatica	6
Signs and Symptoms of Sciatica	7
Chapter 3 ~ Down the Trail	9
Epidemiology, Causes, Diagnosis and Risk Factors	9
Causes of Sciatica	10
Risk Factors	19
Diagnosis.....	22
Chapter 4 ~ Treatment	26
Hot and cold packs:	27
Low- Level Laser Therapy (LLLT)	27
Medications:	28
Physical Therapy	29
Chapter 5 ~ Runner's Duty: Pre-habilitation Training	35
Stretching and Exercising	35
Chapter 6 ~ Avoidance: Prevention	39
Understanding Your Diet	39
Additional Preventive measures	41
How to quit smoking.....	42
Chapter 7 ~ Towards Finishing Line!	44
About Runner Click.....	Error! Bookmark not defined.
About the Author	45
About the Editor	46
Sources	47

Chapter 1 ~ Standing with Health

When there is a problem, the solution must come no matter what the circumstances. In health care, it is advised that it is imperative that you do not wait if injured or sick before looking for treatment. Listen to your body. It is better to provide the necessary things the body needs (medications, dieting, exercising) as soon as the body signals us. This is the best approach to preventing illness, injuries and long-term complications. We can consciously design a proactive plan towards the preventing the body from injury and illness.

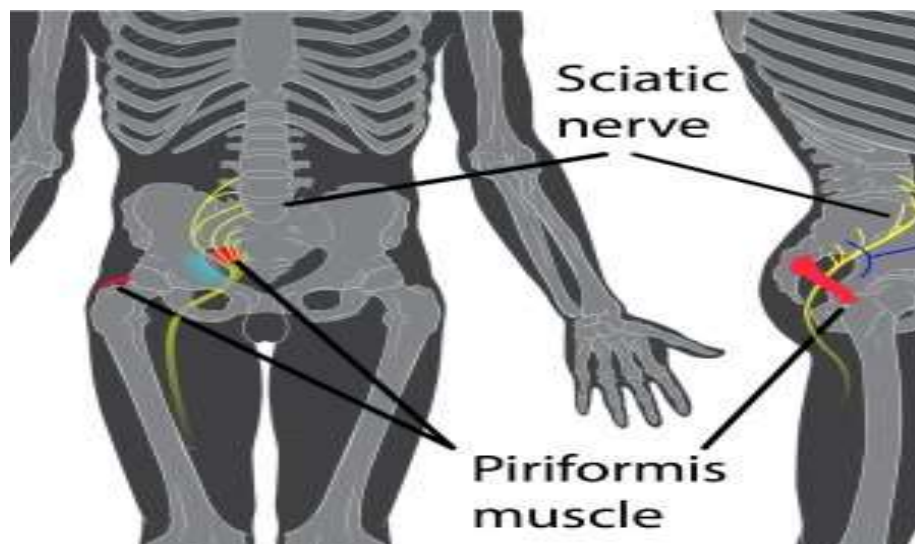
To the athletes and professional sportsmen and women, it is best that we adopt preventive strategies, techniques, and habits to proactively manage our bodies against injuries and disease. This is the best integrative method of strengthening our movement, our exercise, our muscles, stretching and our general running practices.



Let's start and end it together.

Chapter 2 ~ Understanding Sciatica

Sciatica is seen as symptoms of pain at the sciatic nerve. It can also be seen as a pain along the lower back pathway which goes down to the leg. Some people defined it to mean a dysfunction of the sciatic nerve caused by compression of one or more lumbar. Sciatica pain is also associated with numbness or weakness which originates in the lower back and later travels through buttock to the large part of a sciatic nerve at the back of each leg.



The sciatic nerve is where sciatica was derived from. The sciatic nerve is the longest nerve in the human body. Its origin is from the lower spine region of the body thus, because of its origin it is directly associated with lower back pain which happens to be the most vulnerable point of injury.

The nerves begin from the lower back and run through the pelvis, moves to the buttock muscle, entering the leg and will finally move down to the feet. Noticing the distance at which the sciatic

nerve takes in covering the whole body, it is possible that at a particular point, the sciatic nerve can be irritated by sports activities like running. In the process of running, the muscle can be strained and result in discomfort. Additionally, the nerves can become compressed, the spine misaligned, and trigger sciatica.

Signs and Symptoms of Sciatica

Research has been done to ascertain whether an athlete, as it concerns runners, experience more sciatica symptoms than any other individuals. For the moment, the majority of the research conclusion shows that runners do not experience more symptoms than the non-runners. Rather, running will help in reducing the chances of experiencing sciatica. It is observed that any exercise will help in the reduction of inflammation and will help maintain the muscle and the body in a healthier condition. The following are the symptoms:



- **Constant pain** experienced on only one side of the buttock and it is rarely experienced on both sides.
- The pain usually originates at **the lower back or the buttock** and moves along the sciatic nerve till it reaches the back of the thigh and finally goes into the lower leg and foot.
- The patient **feels better when lying down** or when walking but the pain worsens when standing or sitting.
- The pain is **sharp and searing** rather than being dull.
- In some cases, **a pins-and-needles sensation** down the leg is being experienced.
- **Weakness and numbness** while moving the leg or foot.
- A **severe or shooting pain** in one leg which makes it quite difficult to stand or walk.
- **Pain in the toes** will be experienced but it depends on where the sciatic nerve is affected.
- The patient will experience **lower back pain** but will not be as severe as the leg pain.

It is important to know that some symptoms may be intensified during some sudden movements, like sneezing, coughing or in the process of changing positions, like moving from a sitting position to a standing position. Also, certain symptoms are unique to the individual; this depends on the cause of sciatica.



Chapter 3 ~ Down the Trail

Epidemiology, Causes, Diagnosis and Risk Factors

“Just like that, everything was different?”

~ *Anonymous*

Epidemiology of Sciatica

Generally, research made it clear that 4 out of 10 people among the general populace will go through sciatica condition in their lifetime. Individuals between the ages of 30 to 50 years old have a higher risk of experiencing sciatica. Sixty percent of patients suffering from sciatica have severe symptoms which might eventually result in disability.

In the United States, research shows that up to 80% of Americans will experience lower back pain (LBP) during their lifetime. In the UK, 3.1% of men end up experiencing sciatica and 1.3% of women experience it. In Finland, the research shows that 5.3% of men and 3.7% of women experience sciatica in their lifetime. It is also found that most cases of sciatica are resolved spontaneously whereas; up to 30% of the patients will always experience persistent and troublesome symptoms. Twenty percent of cases are sport or work activities related with 5% to 15% of the case requiring surgery.

Additional research shows that up to 55% of patients will still be experiencing sciatica symptoms 2 years after the treatment and

53% experience symptoms after 4 years, (this includes 25% of individuals that might have recovered after 2 years, but had a relapsed again). Sciatica becomes more chronic after 12 weeks with recurrent episodes and it becomes less responsive to treatment.

Causes of Sciatica



Sciatica happens when sciatica nerve becomes pinched by a herniated disc within the spine or by bony overgrowth which is called bone spur on the vertebrae. In rare cases, the nerve can be compressed by a tumor or can be damaged by a disease like diabetes. In discussing sciatica, understanding the medical cause is important as effective treatment is based on the root cause of the pain.



The following are the causes of sciatica:

Disc Herniation: It can also be called disc prolapse or slipped disc. This is a situation where the spine is impinged on a nerve and eventually results in sciatica. This particular spinal condition can be a result of a particular incident like a traumatic accident, like a car crash, or can be an impact injury on the spine. In diagnosing disc herniation, X – ray, CT scan and MRIs can help capture the image. Also, palpation and physical examination are part of the process. In treatment, biomechanical education is coupled with physical therapy, anti – inflammatory drugs that are not steroidal, weight control, spinal manipulation, and surgery.



Isthmic Spondylolisthesis: This is an issue that has to do with the health of the spine. The vertebral body slides a little forward due to the fact that a small piece of bone which is called pars interarticularis and may have a micro-fracture. A bone that is overused or over stressed has the possibility of developing such fracture. This type of stress fracture usually develops at an early stage of life, but its symptoms show up in the adolescence or adult period.

L5- S1 is the most common spine level in isthmic spondylolisthesis and is between lumbar and sacral area. At this point, nerve impingement is very possible and it causes pain, neuropathy with the buttock and knees. There will be weakness while standing on the toes and numbness in the leg. To diagnose this particular cause of sciatica, an imaging technique is required such as an X – ray. Also, physical examination will help. The treatment involves taking of pain medications like NSAID, acetaminophen, heat therapy, physical therapy, and surgery.

Degenerative Spondylolisthesis: In most cases, disc degeneration occurs naturally through the aging process. But in some people, degenerate disc disease in the lower back has the ability to irritate the nerve root which ends up causing sciatica. Also, this involves a slippage of a vertebral body because of aging. This condition is commonly found among persons above 50 years old and women are affected three times more than men. One or more of the lower spine is always affected most especially L4 – L5 and L3 – L4. If there is a slippage at the lower spine of L4 – L5, it will cause pain and neuropathy which starts from the lower back towards the outer area of the leg like the thigh and knee.

This condition might progress into the inner part of the lower leg and also the middle part of the foot.

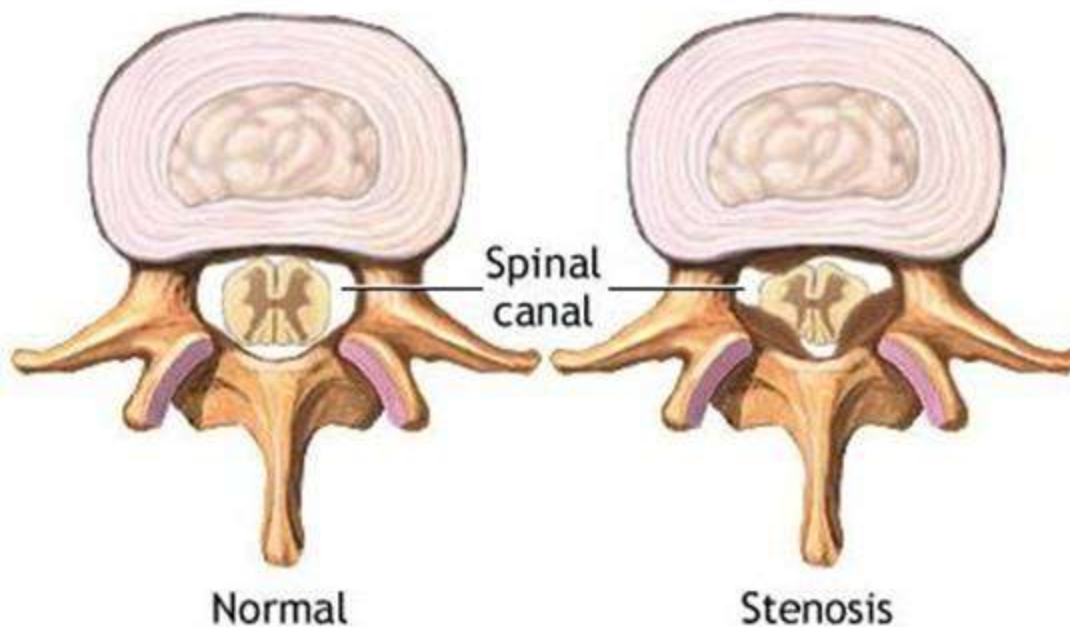
Also, slippage at level L3 – L4 is common. This can cause pain and neuropathy within the lower back, leg, and the calf area. To diagnose this, the patient's medical history should be examined with image testing via the use of X – ray and MRI scan. To be able to treat this condition, some actions and activities should be avoided like standing and walking for a long period of time, active and high impactful exercise plus bending backward should be avoided. Some other treatment may include surgery and steroid injections.

Lumbar Spinal Stenosis: The narrowing of the spinal canal is the condition that causes lumbar spinal stenosis and this condition eventually result in sciatica. It is naturally related to age and it is relatively common for adults older than 60 years of age. At this stage of age, the facet joints (vertebrae stabilizers) begin to increase in size and the spinal nerve root begins to compress. While standing up the pain tends to increase and while sitting the pain decreases.

Lumbar spinal stenosis has three types.

- **Lateral stenosis:** This is the most common type of lumbar spinal stenosis. The nerve root is compressed outside the spinal canal by the herniated disc or by bone protrusions.
- **Central Stenosis:** This happens whenever the back canal is constricted and can lead to more serious symptoms.
- **Foraminal Stenosis:** This situation occurs when the nerve root has been compressed and a bone spur has confined the nerve root in the foreman opening.

Spinal stenosis is a narrowing of the spinal canal



Physical examination and image testing through the use of X-ray, MRI, and CT scans are used in the diagnosis. Dietary modification, exercise, steroid injection, pain medications, like NSAID, can help in the treatment of this condition. In most cases, it does not demand surgery.

Degenerative disc disease: Though some level of disc degeneration is caused by aging, some people have degenerated disc at the lower back because of the irritation of the nerve root which eventually causes sciatica.

This kind of condition most times is not a disease technically but due to the aging process. Certain spinal elements begin to lose their functionality and start to cause pain, sciatica, and other symptoms. When a disc is weakened from excessive micro – motion at the spinal level, and there is an exposure of inflammatory protein from the disc, the nerve root will be irritated within the affected area.

Image testing and physical examination can help to diagnose the condition. The use of pain control procedures might be exercise, change in lifestyle, and diet can help in treating the condition.

Scoliosis: This is a genetic condition of the spine. Here the spine is crooked in an abnormal way and great axial loads are placed on adapted places. This situation involves the bony hollow archway that will collapse. This results in lateral stenosis which various nerve roots can be compressed.

X-ray can easily diagnose this condition. Treatment is proper symptom management alongside surgery and bracing.



Synovial Cyst: It is also known as a facet cyst. This is a benign fluid sac that is formed as a result of a spinal

degeneration. It is one of the unusual causes of spinal stenosis. The pressure is exerted on the spinal canal and adjacent nerve by the cyst, causing pain, radiculopathy, and sciatica.

This condition is age related and it is rarely seen in individuals less than 45 years of age. It is common among individuals that are over 65 years of age. Diagnosing this condition, spinal instability must be controlled before surgery.

X-rays, MRI, physical examination can also be useful during diagnosis. The following comprises the treatment: pain medication, activity adaptation, watchful weight, injection, rest and physical therapy.



Tarlov Cyst: It is sometimes called perineural cyst and it is a fluid that is found in the sacral region, which causes pain, sciatica, radiculopathy. The pain depends on the affected spine level.

Epidural Venous plexus compression: This is an obstruction at the epidural venous network which causes the nerve root to compress. Diagnosis is done through MRI scan. The treatment includes blood-thinning medications and surgical procedures like venous thrombectomy.

Osteomyelitis: It is an infection in the spine which can spread via a vascular path. This infection occurs most of the time to older people, malnourished individuals, patients with an immune system that has been compromised or it can be because of the invasion of a non-sterilized medical procedure. The location of this infection can ultimately cause sciatica if it spreads to the spinal canal. CT or MRI scan will be needed through the help of blood sample. To treat this infection, intravenous antibiotics therapy must be carried out, rest and surgery can also help.



Spinal tumor: In a rare situation, a spinal tumor can impinge on the nerve root at the lower back and can cause sciatica symptoms. There is a possibility that a tumor can develop in the spine but a spinal tumor developing as a cancer is more common. In diagnosis, blood sample needs to be investigated and a scan should be conducted for image testing.

Pregnancy: A change in the body system during pregnancy can cause sciatica. Changes like weight gain, a shift of one's center of gravity and hormonal changes can actually cause sciatica.

Epidural Fibrosis: This is a post-operative scar tissue that can compress on the lumbar nerve root by binding on it and can cause sciatica. A patient's medical history needs to be studied for proper diagnosis and a complex image investigation. To treat this condition, a combination of stretching and physical therapy should be recommended, spinal cord stimulation, injections, and surgery.



Muscle strain: The inflammation that is related to a lower muscle strain or muscle spasm can put pressure on the nerve root and can eventually cause sciatica pain. Studying the patient's medical history and visual observation of the affected area which is swollen and filled with bruises can help in diagnosis. Treatment consists of P.R.I.C.E, non-steroidal anti-inflammatory drugs, and blood thinners.

Ankylosing spondylitis: This is a condition that is characterized by chronic inflammation around the spine. Most times, the symptoms show up first at the sacroiliac points causing sciatica and other symptoms. To diagnose this particular condition, personal and family medical history, blood sampling, and physical examination are conducted. The treatment plan includes pain medication and surgical procedures with physical therapy.

Know that conditions and injuries can cause sciatica nerve damage or impingement. Therefore, it is advisable to get multiple recommendations from a medical professional with different expertise and with the several sources of evidence before you draw conclusions.

Risk Factors



Risk factors vary from person to person as far as sciatica is concerned. It is made up of the body posture, positioning, degree of fitness, and overall health factors. It is advisable that if you are a sports lover, a new runner, or only exercise during weekends, you should beware of the risks associated with sudden and intense exercise. Therefore, it is better to start low and go slow. Do not rush as this will be your lifetime enjoyment. Do not ruin it at the early stage.

The following are the risk factors.

1. Age
2. Pregnancy
3. Overweight or obesity
4. Smoking
5. Occupational
6. Sitting for a prolonged period.

Age: As the body advances in age, it loses the ability to handle the stress from daily activities. Activities like bending over to lift heavy objects might become difficult to do because of age advancement.

Pregnancy: Because of the increase in weight, pregnancy can be a risk factor to sciatica. It is advisable to maintain healthy exercise in order to keep the body conditioned.

Overweight or obesity: Areas that are weak because of under or overuse, improper form during daily activities, and poor conditioning can place undue stress on the body. Maintaining healthy weight can improve the body's ability to resist stress and heal itself.

Smoking: Smoking affects the entire body health system. When the lungs are unable to feed oxygen to the blood it runs the risk of collapse. Also, while smoking, the lungs are incapacitated and unable to fully absorb the oxygen needed for the body in order to sustain homeostasis.



Occupational: There are jobs that involve the lifting of heavy materials consistently. In repeating this action, the lower back will become twisted. Nearly every job out there, at a particular time, demands that individuals lift or twist the body. Do it safely. For example, to work at a grocery store might look simple, but there are long periods of time where one needs to bend, lift, and perhaps, stock items before the end of their working hours.

Sitting for prolonged periods: There are a lot of jobs that require sitting for very long periods of time. This can have a detrimental effect on the body especially the back. Some of the helpful ways are, taking frequent breaks, stand up, walk away, and moving around.

Recently, there have been trends in getting a stand-up desk which provides a better mode for movement, posture, and proper blood circulation. Some people have treadmills installed so they can walk while working! If doing this looks impossible, no need to

worry, consciously think, develop, and implement the habit of maintaining good posture while sitting or standing, it will help. Posture pillow and lumbar supports are available to remind us of our posture.

Diagnosis



To be able to diagnose sciatica, it requires a trained medical professional. The doctor will run a number of tests to be sure that the patient is actually experiencing sciatica. It is important because it will help to determine the kind of treatment plan to follow. Some common tests you can expect when visiting a medical professional are:

- The very first thing the doctor will do is to ask for a **full detail of your medical history** including type, duration of various symptoms that may have been experienced previously or presently and also those actions that keeps on upsetting these symptoms. In a situation where the individual realizes that he lifted a heavy load or might have extended their back, it will be advisable to disclose this to the doctor

because this might be attributed to the cause of the symptoms. Furthermore, some symptoms may show as a sign of a ruptured vertebral disc which may require treatment like surgery. It is best to come prepared by trying to analyze the potential causes beforehand.

- After completing the medical history report, **an assessment will be conducted to check the patient's neurological strength.** It is used to check for nerve impingement. Also, the reflexes of the patient will be checked to be sure that all sensation can be felt in the legs and there are no nerves that are being cut off by impingement.



- In a situation where there is a **loss of proper bowel functioning**, a rectal examination will be conducted. The examination is to make sure that the muscles at the rectum are maintaining their tone and sensation by receiving stimulus from the nervous system.
- Where the symptoms of sciatica persist for many weeks after the treatment and care, then **X-ray scan will be ordered** in order to diagnose the situation further. The x-ray is going to be used to assess the changes around the bone and the

spine together with the pelvis. This is important because it will rule out the growth of a tumor or an infection causing sciatica. Please note that infections are rare. An infection is required to first attack the root of the sciatic nerve in the lower back. The presence of a tumor can cause issues if there is significant pressure on the sciatic nerve. But today's technology can help in detecting the condition before it becomes detrimental or disabling.

- A **Computerized Tomography (CT) or Magnetic Resonance Imaging (MRI)** may be recommended in a situation where the symptoms persist for many weeks. This equipment will be used to assess the patient's nerves, spinal disc, in a more detailed way. The use of **Electromyography (EMG)** can also be used in confirming nerve compression in order to avoid spinal stenosis or herniated disc.

During diagnosis phase, be sure to ask your doctor or health care provider about a referral to a physical therapist or osteopath who has specialties in physical medicine.

Preparing for Your Appointment

There are some individuals who have sciatica which does not require extensive medical care. If your symptoms are severe or they persist for more than one month, it is advisable that you make an appointment with your doctor or primary health care provider.

What you will do

- Try to **recall and write down** your symptoms right from when it began.
- **Outline the key medical information** which must include other conditions you have including any medication you take.

- Make note of the **recent accident or injury** you think might have damaged your back.
- Go to **your appointment with a family member** or a friend if possible. This will help you recall what the doctor says.
- Jot down questions you can ask the doctor in order to get clarity.

Some basic questions to ask your Doctor

- What could be the most likely cause of my back pain?
- Is there any other possible cause?
- What are the diagnostic tests necessary?
- What is your recommended treatment plan?
- If medication is recommended, what are the possible side effects?
- How long will I be taking the medication?
- Am I a candidate for surgery? Why or why not?
- Are there any restrictions that I need to adhere to?
- What are the self-care measures I should be taking?
- What can I do to prevent re-occurrence?

You can ask any questions if you have any and don't hesitate to ask your doctor questions for better clarification and understanding.

Things to expect from your doctor

Your doctor may ask you questions like:

- Do you have any numbness or weakness in your leg?
- Are there some physical body positions or activities that make the pain better or worse?
- How limiting is your pain?

- Have you tried any treatment or self-care measures? How did it help?

Chapter 4 ~ Treatment



There are many measures that can be used in treating sciatica. They range from surgical or non-surgical. Findings have shown that lower back pain (LBP) is one of the major causes of pain in the general population. Also, lower back pain is a common source of pain among runners and athletes.

The problem now is, as the pain increases, the runner is forced to miss out on training, events, and if proper attention is not given to the pain, it might lead to total disability. So it is of the utmost importance that as soon as a diagnosis has identified the cause, right treatment should be administered.

This must be done in a timely manner in order to speed up the recovery and healing period. In addition, it will prevent the significant loss of training time and event participation. Some of the common treatments for sciatica include:

- **Hot and cold packs:** It has been confirmed that hot and cold packs can help reduce the pain during a sciatica episode. The preferred method is the use of heat. Use of a hot tub, hot pack, heating pad, or bathing or swimming in a heated pool will be comforting.



- **Low- Level Laser Therapy (LLLT):** This is a new form of therapy that is useful in treating sciatica pain. LLLT shows promising results in relieving pain and quicken recovery time. LLLT works by using non-invasive light waves which do not produce heat, sound, or vibration on contact. This therapy is a part of a methodology that is named photobiology or bio-stimulation. It was discovered that this therapy has been accelerating connective tissue repairs and also act as an anti-inflammatory agent to the irritation site.



- **Medications:** There are some over-the-counter drugs that can be taken orally to treat the symptoms and can serve as a short-term solution. The types of drugs that can be prescribed for a patient with sciatica pain include the following:



Anti-inflammatories

Muscles relaxants

Narcotics

Tricyclic anti-depressants

Anti-seizure medications

NSAIDS (Non-Steroidal Anti-Inflammatory Drugs) like Motrin.



Muscle relaxants will help in relieving muscle spasms.

Antidepressants are used by a patient because they can change and rebalance the body chemistry of neurotransmitters responsible for pain sensations. Though antidepressant therapy is not a significant method of treatment, it has been effective in some people.

- **Steroid Injections:** In some difficult cases, the doctor can recommend that injection of corticosteroid medication into the affected nerve root. Corticosteroids help reduce the pain by suppressing the inflammation at the irritated nerve. The number of steroid injection should be limited due to the side effects as side effects tend to increase when the injections are frequent.



- **Physical Therapy:** It may be difficult to remain active due to the pain; however, prolonged resting is not a long term solution. It was believed that the best way to treat sciatica

was to have a long bed-rest but studies have shown that this method will only worsen the symptoms.



Physical therapy is a significant method of treating sciatica and is recommended by doctors. There are many types of physical therapy that can be incorporated into an effective treatment plan. Physical therapy provides the best exercises and movement to practice on a daily basis in order to aid healing. The right movement will help in improving daily living conditions and reduce the pain. It can also serve as a preventive method to sciatica in the future. During this session, it is important to follow your physical therapist's direction.



- **Biofeedback:** This particular therapy has been seen to be very helpful to people in managing their pain. Here, the patient will be learning how to control their bodily processes like the heart rate and blood pressure. This particular therapy is good when treating anxiety and stress related to the symptoms. The patient will be hooked up to body monitoring instruments and information displayed on the screen in order to gauge their current homeostasis and body stability. Once this has been done there are ways to determine how to connect the patient's mind with their body. The effective treatment plan is to educate people on how to control their body and how to improve the symptoms of anxiety and stress.
- **Earth Grounding therapy:** This therapy still requires more research. But in the meantime, it has provided relief to the symptoms in some people. This therapy is sometimes called grounding. It is a situation where the patient must have a direct contact with the ground or a conductive device. A scientific theory has shown that having direct contact with the ground will charge the body with negative charge free electrons that will be able to provide some health benefits to the body.

- **Acupuncture:** This is a practice that is centered on the philosophy of achieving or maintaining the patient's well-being by using the specific pathways in the body to generate an open flow of energy. This has been the Chinese traditional way of treating pain for thousands of years. It is regarded as the most effective way of relieving pain. People that have used this method report significant positive changes. Hair-thin needles (not usually felt) will be inserted into the skin close to the area of pain. The point where the needles are inserted is called **acupuncture points**. The purpose of the insertion is to restore flow and balance to the body. Pain is felt when one or more of the channels are blocked. Research has suggested that stimulating these nerve points will produce a beneficial result to the central nervous system.
- **Surgery:** Most sciatica conditions will resolve on their own within four to eight weeks. However, if the following situations occur, it is reasonable to undergo surgery.



1. Severe pain that has persisted for **more than six weeks**.
2. Pain that has **not subsided after concerted effort** to treat it using a non-surgical treatment like oral steroids, non-steroidal anti-inflammatory medication, and physical therapy.
3. Patient's ability to **participate in daily activities** has been completely limited.

Urgent surgery is required when the patient is constantly experiencing weakness in the legs, sudden loss of bowel, or bladder control.

There are two types of general surgeries that can be considered but the choice of the surgery is dependent on the cause and duration of the sciatica pain.

1. **Microdiscectomy surgery:** This surgery takes place if the sciatica pain is caused by lumbar disc herniation. It is a small open surgery that uses magnification. This is the most common surgical approach. During the surgery, only the portion of the herniated disc that pinches the nerve will be removed and the rest of the disc will remain untouched.

Microdiscectomy will be under consideration if the sciatica pain continues severely for four to six weeks and all non-surgical treatment has been administered but the pain has not reduced. Generally, approximately 90% of every patient that undergo this type of surgery gets relief from the sciatica pain immediately after the surgery.

2. **Lumbar Laminectomy Surgery:** When the sciatica pain is caused by lumbar spinal stenosis then a lumbar laminectomy procedure will be recommended. During this surgery, a small part of the bone or disc material that has been pinching the nerve root will be removed. If the patient's activity tolerance level falls to an unacceptable level due to spinal stenosis, at this point, laminectomy will be recommended.



Chapter 5 ~ Runner's Duty: Pre-habilitation Training

Stretching and Exercising

Though this might look counter-intuitive, stretching and exercising has proven beneficial results in the case of sciatica pain. To be inactive is very dangerous and can worsen the symptoms. Some stretches that can be beneficial to the body are:

Reclining Pigeon Pose:

1. Start by lying on your back, flex one of your legs at an acute angle and plant the foot firmly on the ground.
2. Let the external part of the ankle rest below the knee of the other leg. Grab the planted leg behind your thigh and pull it towards your chest.
3. Let one of your hands pass the triangle that has just been formed with your legs and let both legs leave the ground when pulling.
4. Hold on the stretch for a couple of seconds at the top and alternate sides. Do it respectively per leg and do it for few minutes every day.

Sitting pigeon pose:

1. Sit on the floor with your buttock and let your legs extend in front of you.
2. Try to use one of the legs to form a triangle by resting the external part of the ankle on top of the knee of the extended leg.
3. On this position, bend forward and try to grab the tip of the extended leg.
4. Stay in this position for some seconds and after that, you alternate the leg.

Forward pigeon pose:

1. This particular stretch involves both hands and legs on the ground.
2. Get both hands and legs to the ground.
3. Let your leg be in front of your toes by resting the tip of your foot on the ground and allowing your knee to point in front of you.
4. Try sliding the other leg backward and try lying flat on the ground.
5. Slowly try shifting the weight from the arms to your legs by performing the negative part of a push-up.
6. Do this repetitively and hold on for a couple of seconds.

**Knee to opposite shoulder:**

1. Go flat on your back and let one of your legs flex in front of your chest,
2. Grab the knee and pull it towards your chest while still holding the knee.
3. Try to rotate the knee towards the other shoulder

4. Let the rotation be internal, afterward, you stretch your outer tight as far as you can stretch without pain.
5. Change leg and repeat the same action.

Sitting spinal stretch:

1. Sit on the floor and extend your legs in front of you
2. Cross one over the other and plant your feet outside the opposite knee.
3. Still in this position, rotate your toe outwardly using your hands which are placed beyond the legs.
4. Hold on the tensioned position for thirty seconds and after you change sides.

Standing hamstring stretch:

1. Place your legs on an elevated surface around 90-degree angle and
2. Try to make both of your legs to be straight.
3. Start by grabbing the tip of your foot and lower your toes to the elevated leg.
4. Stay in this position for a while and stretch the various muscle fibers
5. After sometime change the leg and repeat the same action.



It is important to know that exercise and physical activity are important for our muscle growth which will stabilize our spinal structures. Physical activities and stretching will help in stimulating growth and repairs, nutrient absorption, endorphins production and stretching will help in reducing inflammation and all other causes of mortality. The patient needs to slowly work his entire body. It is advisable to focus on the lower part of the body and the adjacent muscles to the gluts.

Chapter 6 ~ Avoidance: Prevention

Understanding Your Diet



Diet is essential in rehabilitation and also in preventing diseases. A plant-based diet is recommended. This helps keep the inflammation level minimal. One type is a calorie-sufficient strict vegan diet. This diet is also useful in correcting hormonal imbalances, obesity, cholesterol, and some cancers.

For the sciatica patient, the focus must be on proper hydration, Vitamin D, calcium, and potassium levels. Water is very important for the body. It is advisable to drink up to 2 liters of water daily and if possible more than 2 liters.

Exposing the body to sunlight will help to produce vitamin D. Depending on where you live, try to receive 10 to 15 minutes of direct sunlight every day. Be sure to use sunscreen. Other vitamin

rich foods include non-dairy milk, oranges, soy yogurt, and chanterelle.



Calcium is available in oranges or juices from vegetables, plants, milk, kale, broccoli, beans, seed, and dried figs.

Vitamin K is from plants that are green and leafy. The absorption of Vitamin K increases with a little fat present. So try to add something like nut avocado to the food and avoid fried oils.

Other foods for sciatica pain are:

- **Turmeric** has strong anti-inflammatory properties. You can take it by drinking as a tea infusion or can be cooked.
- **Jamaican Dogwood:** This is a tree substance which comes in capsules or tincture. It should not be taken if you are pregnant or breastfeeding.
- **Garlic** has high anti-inflammatory properties which can help relieve sciatica pain and also improve immune system function.

Additional Preventive measures



It is always a difficult situation to prevent sciatica because the condition may reoccur. The following can play an important role towards protecting your back and prevent further occurrences.

- **Exercise regularly:** In order to keep your back strong, you must pay special attention to your muscles especially the muscles of your abdomen and lower back which are essential for posture (proper) and alignment.
- **Maintain proper posture while sitting:** Choose a seat that has a good lower back support and has a good armrest. You can place a pillow or rolled towel at your back while sitting to maintain its normal curve.
- **Use good body mechanics:** In a situation where you stand for a long period, you can rest one of your foot on a stool or small box from time to time. When lifting something heavy, allow your lower extremities to do the work. Make sure you keep your back straight and bend only at the knees. Draw the load closer to you and avoid lifting and twisting at the

same time. If the object is heavy find a lifting partner to help lift the object.

- **Do not smoke:** Though smoking is a bad habit and is hard to quit; however in the long-term, this addiction has an adverse effect on the health of the individual.

How to quit smoking

- **Set a quit date.** To be able to live up to your quitting date, you can tell your friends, family about your intentions and prepare to combat the initial cravings.
- **Know the reason** you are quitting and try to write down the impact this will have on you financially and health wise.
- Try to know **your personal triggers.** Know what stirs up your desire to smoke. This might be a physiological addiction, habits or emotion which has to be resolved using healthy means.
- Use **patches, lozenges, and gum.** A number of products have been created in order to help people who want to quit smoking. These products contain a progressive dose of nicotine which will help in reducing cravings.

Lifestyle and Home Remedies

In most people, sciatica usually responds to self-care measures. Some self-care treatments that are helpful include:

- **Cold packs:** For a start, use a cold pack and place on the painful area up to 20 minutes many times in a day in order to relieve the pain. Always use an ice pack or an ice that is wrapped in a clean towel. This is to avoid skin-burnt.

-
- A collection of various pills and capsules scattered on a dark, textured surface. The pills include a large white oval, a blue oval, a white oval with a score line, a white circular tablet, a blue circular tablet with '10' and a score line, a blue capsule with 'ORCA' markings, an orange capsule filled with yellow beads, a white circular tablet with 'WELLBUTRIN XL' markings, and a white oval with '500' markings.

Chapter 7 ~ Towards Finishing Line!

In summary, it is possible for a runner to encounter sciatica pain while running due to an irritation of the nerve. Running and exercises, on the other hand, can be seen as a preventive approach to sciatica.

One of the recommended methods to avoid and prevent sciatica is to exercise on a regular basis. If under any circumstances you experience sciatica and its symptoms stop exercising immediately. If the pain continues see your doctor or your primary health care provider for diagnosis and treatment. In general, try to see a physical therapist or an osteopath who specializes in physical medicine and is knowledgeable in the best way to treat sciatica.



About the Author



Ekemini Felix is a part-time writer and strategic analyst.

He has work in several venues as his career is growing by the day.

He is actively working on many articles as he enjoys writing about all things concerning runners' health. We wish we could say more but for the moment his career is soaring higher and expect more from him!

About the Editor



Diana Rangaves is a full-time writer, editor, award-winning teacher, and pharmacist.

She has work appearing in numerous venues, including children's picture books, medical pharmaceutical books, scholastic books, and academic articles. Diana is the author of ***The Adventures of Rosy Posy Papillion*** children's series. One-hundred percent of the author's royalties benefit PapHavenRescue.org. She is also the author of the growth educational books, *Medicine Child's Play*, *Escape into Excellence*, and *Embrace Your Excellence*.

She is actively working on the *Ethical Hacker ~ Acidemia* a political suspense thriller novel.

Former Executive Editor and Chief Content Officer for the digital magazine, *Healthcare Worldwide Central*, she earned her Doctorate in Pharmacy from the University of California, San Francisco.

Diana is a foster mom for PapHavenRescue.org and lives in California with her dogs and pasture pets, in their forever home.

Sources

1. Staff Writer, [Sciatica Pain Relief Option](#); WebMD, April 7th, 2017
2. Koes. B. W; Van Tulder M. W; Peul W. C, [Diagnosis and Treatment of Sciatica. NIH](#), April 7th, 2017.
3. MD shahidur Rahman, Mohd Taslim Uddin, MD Ahsanulla, [Management of Sciatica, conservative versus Surgical, JBCPS](#), April 7th, 2017
4. Zongshi Qin, Xiaoxu Liu, Qin Yao, Yanbing Zhai, Zhishun Liu, [Acupuncture for Treating Sciatica: a systematic review protocol, BMJ](#), April 11, 2017
5. Staff Writer, Ortholnfor: [Sciatica, American Academy of orthopaedic surgeons](#), July 11th, 2017
6. Staff Writer, [Sciatica](#), Mayo clinic, July 11th, 2017
7. Staff Writer, the Quit smoking: Beating the smoking addiction. Quit line, July 11th 2017
8. Staff Writer, smoking and cancer: [A cancer Society, Fact sheet cancer society, July 11th, 2017](#)
9. [Petering R.c; Webb. C, Treatment options for low back pain in athletes. sport health: a multidisciplinary approach](#), July 11th, 2017.
10. Staff Writer, [Sciatica](#), Wikipedia, July 2nd, 2017
11. Stephen H. Hochschuler, MD; [What you need to know about sciatica](#), May 5th, 2016
12. Stephen H. Hochschuler, MD; [Physical therapy and exercise for sciatica](#), May 5th, 2016
13. Stephen H. Hochschuler, MD; [Sciatica symptoms](#), May 5th, 2016
14. Victoria wolk, [Simple moves to ease sciatica](#), December, 22nd 2014
15. Staff Writer, [Sciatica risk factors](#), laser spine institute, July, 2017
16. Staff Writer, [Preparing for your sciatica appointment](#), Mayo clinic, July 11th 2017.
17. Staff Writer, [The clinical effectiveness and cost- effectiveness of management and strategies for sciatica: Systematic Review and Economic Model](#), NCBI, January, 2011
18. Anthony H. Wheeler, MD; [Low back pain and sciatica](#), February 3rd, 2016
19. Staff Writer, [Lifestyle and home remedies of sciatica](#), Mayo clinic, July 11th, 2017
20. Staff Writer, [Complication of sciatica](#), Mayo clinic July 11th, 2017
21. Staff Writer, [Risk factors of Sciatica](#), Mayo clinic, July 11, 2017.
22. Staff Writer, [Treatment and drugs](#), Mayo clinic, July 11, 2017.
23. Staff Writer, [Alternative medicine](#), Mayo clinic, July 11, 2017
24. Staff Writer, Sciatica, Med Line Plus, March 25th, 2016
25. Stewart G. Eidelson, MD; [Facts and FAQs about sciatica, low back and leg pain](#), June 29th, 2016