



Reasons for sciatic nerve inflammation

The most common cause of sciatic nerve inflammation is compression, with irritating effects of the sciatic nerve itself or of one or more of the spinal nerves that originate it. Compression with irritating effects of the sciatic nerve or of one of the spinal nerves located at its origin may depend on various conditions, including:

- Hernia of the lumbo-sacral disk (that is between the lumbar and the sacral part of the vertebral column). This is the main cause of inflammation of the sciatic nerve; according to statistics, it has a leading role in at least 15% of episodes of inflamed sciatic nerve;
- Lumbo-sacral degenerative discopathy. 'Discopathy' is the medical term that indicates any disease of the intervertebral disc;
- Lumbo-sacral vertebral stenosis. Also known as 'spinal stenosis', vertebral stenosis is the pathological narrowing of a portion of the vertebral canal (or spinal canal), ie the channel inside which the spinal cord is placed;
- Lumbo-sacral foraminal stenosis. In medicine the expression foraminal stenosis indicates the pathological narrowing of the small channels through which the roots of the spinal nerves run from the spinal cord;
- Lumbo-sacral spondylolisthesis. Spondylolisthesis is a disease of the vertebral column, in which one vertebra slips on the other;
- Piriformis syndrome. This is the set of symptoms that arise from the compression of the sciatic nerve caused by the piriformis muscle. Normally the piriformis muscle is the protagonist of a compression with irritating and inflammatory effects after suffering a trauma or contracture;
- Spinal tumor along the lumbar-sacral section of the vertebral column. Since they are cell masses of a certain volume and in continuous expansion, spinal tumors, ie tumors located along the vertebral column, can push on the spinal cord, on the spinal nerves and/or on the roots of the spinal nerves and cause compression;
- Advanced pregnancy. In this circumstance the compression phenomenon from which the inflammation of the sciatic nerve originates is due to the very voluminous uterus, due to the now completely developed fetus.

Further reasons of sciatic nerve inflammation

The sciatic nerve inflammation can also be the result of a traumatic injury of the sciatic nerve. Among the main causes are: The displaced fractures of the thigh or leg bones and the severing of the sciatic nerve, caused in a completely involuntary manner by surgeons during hip replacement surgery.

What are the risk factors for the sciatic nerve inflammation?

To stimulate a sciatic nerve inflammation are factors such as:

- advanced age. With the aging of the human body, the vertebral column is subject to changes in the form that predispose to the herniated disc;
- obesity. In the long run it can modify the vertebral column and expose it to the development of disc hernias;
- the habit of assuming incorrect postures. Sitting inappropriately favors the development of disc herniations;
- work activities in which it is common to lift weights or twist the back. It is worth pointing out that the correlation between the inflammation of the sciatic nerve and the aforementioned work activities is only reflected in the statistics; the scientific studies conducted have not yet demonstrated the aforementioned link;
- diabetes. In the long run, this widespread metabolic disease can cause deterioration of



peripheral nerves (diabetic neuropathy);

- sedentariness. The comparison between extremely sedentary people and very active people has shown that the former are much more prone to sciatica;
- traumas to the buttocks, thighs or legs. These unpleasant events are associated with a non-negligible risk of sciatic nerve injury;
- arthritis of the vertebral column. With the inflammation of the joints of the spine, the latter is the victim of changes that make the compression of the spinal nerves (including the sciatic nerve) more likely;
- diseases of the vertebral column (e.g.: vertebral stenosis, foraminal stenosis, spondylolisthesis, etc.) located along the lumbo-sacral tract;
- hip replacement surgery. The involuntary severing of the sciatic nerve during hip replacement operations is, fortunately, a very rare circumstance.

How to diagnose a sciatic nerve inflammation

In most circumstances, a thorough physical examination and a scrupulous medical history are sufficient to reach the diagnosis of inflammation of the sciatic nerve. Once the presence of an inflammation of the sciatic nerve has been identified, diagnostic research by no means finished, but must continue with the aim of discovering the triggering causes. The search for the factors that cause the inflammation of the sciatic nerve is very important because it is on the causal factors that the doctors base the most appropriate treatment planning (remember that sciatica may depend on very different causes and that, for each of these, there is a specific treatment). Among the exams that help doctors to identify the causes of inflammation of the sciatic nerve are:

- X-rays to the vertebral column. These allow an evaluation of the state of health of the vertebral column and to identify, when particularly evident, herniated discs, vertebral stenosis, foraminal stenosis, etc. ;
- Lumbosacral magnetic resonance. It is a safe and completely harmless radiological examination that allows the identification of spinal tumors, herniated discs, vertebral stenosis, foraminal stenosis, etc., even when they are not very evident;
- the CT scan of the vertebral column. This has a diagnostic power, with regard to diseases of the spine, equal if not greater than that of magnetic resonance. Unfortunately, it exposes the patient to a non-negligible dose of ionizing radiation;
- Electromyography. This allows an evaluation of the conduction of nerve impulses along the sciatic nerve and to study the functioning of the latter.

How to recognize the symptoms of the sciatic nerve

More often unilateral than bilateral, the inflammation of the sciatic nerve is responsible, always and from the beginning, for an annoying pain in the anatomical areas in which the sciatic nerve transits. The characteristics of the pain that derives from the inflammation of the sciatic nerve vary according to the triggering causes: some causal factors produce a burning, acute, penetrating and persistent pain; other causative factors, on the other hand, cause a slight painful sensation, which, in a very sudden way, becomes more acute and is similar to an electric shock. According to the testimonies of numerous patients, moreover, the pain produced by the inflammation of the sciatic nerve tends to increase temporarily after intense physical exertions, coughing or sneezing and coinciding with moments of stress, anxiety or tension.

Having a specific location and presenting peculiar characteristics, the painful sensation that arises from the sciatic nerve inflammation is known as sciatic pain.

Shortly after the beginning, in the same lower limb where it produces pain, the inflammation of the sciatic nerve induces other symptoms, which include: tingling, muscle weakness, sense of



numbness, more or less profound alteration of cutaneous sensitivity and difficulty in motor control.

Usually the pain and the other symptoms that originate from the inflammation of the sciatic nerve are located very rarely in the same point; this means that most patients tend to feel the painful sensation in an area (e.g.: gluteus), the tingling in another area (e.g.: thigh), muscle weakness in another area (e.g.: leg) and so on.

Side effects and complications of sciatic nerve inflammations

If the compression/injury is severe, or there is inadequate care, the sciatic nerve inflammation can lead to various complications, such as:

- lameness;
- loss of control of the anal sphincter and the bladder sphincter;
- total absence of sensitivity along the affected lower limb;
- strong sense of muscular weakness along the lower limb involved.

When to contact the doctor?

The sciatic nerve inflammation deserves a series of medical insights when:

- despite rest, there is a worsening of symptoms rather than an improvement;
- the symptoms have worsened suddenly and without any reason;
- the symptoms appeared after a violent injury to the back;
- in addition to the classic symptoms (pain, tingling, etc.), the patient also has poor control of intestinal functions (indicates an involvement of the anal sphincter) and/or bladder functions (it is indicative of an involvement of the bladder sphincter).