

# ARACHNOIDITIS.NET

It was suggested by a visitor to this web site that it would be helpful to provide some short and to-the-point answers to some of the questions that arise when researching arachnoiditis. Because I have arachnoiditis and chronic pain, I had assumed that others were familiar with with the things we experience on a day-to-day basis. But for those that have recently been diagnosed with this disease, or know someone that has, this is all new to them.

For that reason, here are some **"Quick Answers"** to the most frequently asked questions about arachnoiditis.

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## What is arachnoiditis?

Arachnoiditis refers to inflammation and scarring together of nerve roots after a trauma, such as surgical intervention to remove a herniated disk. It is typically seen on MRI as a clumping together of the affected nerve roots, and enhancement (lighting up after contrast dye is given). The arachnoid is the middle of three layers of the meninges, which are the covering membranes of the brain and spinal cord. The subarachnoid space by contrast is the space in between the arachnoid and the pia mater, the innermost of the 3 layers of the meninges. It is in this space that spinal fluid circulates. It is also the space where hemorrhage from a ruptured brain aneurysm occurs. The treatment of true arachnoiditis can be extremely difficult. It does not typically cause enough scarring or damage to nerves to produce weakness or even true numbness, usually only chronic pain.

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## Causes

Presently, surgery and myelographic studies are the most common causes. Surgery can injure the roots and/or the arachnoid membrane directly or indirectly. The injury may occur in moving the nerve root out of the way to allow access to the disk space, or due to harsh manipulation and intrathecal bleeding. Arachnoiditis also occurs 10% - 30% with degenerative disc disease and spinal stenosis. Myelographic tests, in which special dyes are placed in the fluid around the membranes and roots, followed by an X-ray, can irritate the arachnoid membranes and lead to arachnoiditis. Using only the latest water-soluble dyes can help prevent this.

Epidural injections of depo medrol may cause arachnoiditis. Based on one study, about 20% of the patients developed arachnoiditis after epidural injections of depo medrol. There is a belief that a preservative in the anesthesia may have been the causing factor. Arachnoiditis can be very problematic with chronic neuropathic pain, variable sensory motor and reflex changes. Usually this arises from nerves entrapped in arachnoid-dural adhesions. These adhesions can arise from foreign substances introduced into the subarachnoid space (anesthesia agents, infections, steroids, dyes etc.). This can also be from disc herniations or protrusions.

Some of the common and uncommon causes of arachnoiditis are:

- Spinal surgery, especially if there is more than one surgery
- Chemicals introduced into spinal column
- Oil based radiographic contrast agents
- Myelographic studies
- Spinal drugs: Anesthetics, Steroids, Amphotericin B, Methotrexate
- Trauma, vertebral injuries, disc herniation
- Spinal subarachnoid hemorrhage
- Penetration of spinal column with needles or other foreign objects, including epidural anesthesia analgesia, or even something as simple as epidural blocks

- Diseases or infections such as tuberculosis, cryptococcosis, meningitis, syphilis, ankylosing spondylitis, syringomyelia

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## Symptoms

The signs and symptoms vary with the extent of the disease. It may cause headaches, epileptic seizures, blindness, or slowly progressive spastic paralysis (due to increased muscle tension) affecting one or more limbs. There may also be bladder, bowel and sexual dysfunction. The pain is difficult to treat, so it is important that you find a knowledgeable, caring and compassionate doctor or doctors. Some symptoms of arachnoiditis are:

- Pain: Low back & radiating down both legs
- Weakness: One, or multiple lumbar or sacral root distribution
- Burning or stinging pain in the back and down one or more limbs
- Urgency, frequency and incontinence
- Spasms of the bladder, bowel, back and legs
- Burning in ankles and feet, with a feeling as if walking on rocks or glass
- Unexplained skin rashes and/or itching
- Loss of feeling below the affected area (but not necessarily affecting all areas). This may be temporary or permanent
- Loss of sexual desire or dysfunction
- (You may have some, but not all of these symptoms)

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## Diagnosis

Although under diagnosed, arachnoiditis may be one of the most common complications of spine surgery. Hundreds of thousands of back operations are performed yearly, yet roughly 25% of these operations fail to help the patients completely. A good portion of this 25% failure rate is thought to be related to arachnoiditis.

Difficulty in diagnosing this problem is compounded by a lack of awareness by the physician. Understanding the problem begins with understanding the anatomy of the spinal canal.

The spinal cord and the contained nerves travel from the brain to the lower spine region. The nerves then exit the spinal cord at the appropriate levels. The nerve roots are encased by membranes, which protect and nourish the nerves. The layers are inner layer (pia matter), middle layer (arachnoid), and outside layer (dura). These membranes are very delicate and easily injured.

Arachnoiditis is an inflammation/swelling of the arachnoid membranes around the nerve roots. Later stages of arachnoiditis causes chronic pain. People who have arachnoiditis describe the pain as a burning type pain. The pain is usually located in the lower back region and often times radiate into the legs. Frequently it persists while resting. Arachnoiditis can also cause neurological dysfunction.

Diagnosing the problem can be difficult but sophisticated tests such as the CT scan with myelogram and the MRI scan have helped. The MRI, while less invasive (no dyes injected) and therefore less painful, is a more expensive test to use (which is why it is harder to get insurance approval). It gives us a similar picture to look at.

A test called an EMG can assess the severity of the ongoing damage to affected nerve roots by using electrical impulses to check nerve function.

## Treatment

Unfortunately, there is not much success with treating this condition other than trying to achieve some pain control. There is no cure at this time, or in the foreseeable future. Most patients will continue to have some pain as well as depression. Pain relieving measures are helpful in most instances. Some of these include, but are not limited to, the use of pain medications, massage treatments, special battery powered stimulation units (Tens units), limited exercise, and specialized self-help such as imagery, self-hypnosis, coping skills and support groups. Treatment of subsequent depression using psychiatrists and antidepressants is extremely important. More elaborate treatments include implantable pain medication units placed under the skin (pumps). There is also a surgical option that would free the roots in the arachnoid membranes by removing the scar tissue. This is a limited treatment option for most patients, and is surrounded by a great deal of controversy. In most cases, the scarring reforms at the surgical site and within a short period of time (usually 6 months to two years) the patient is experiencing as much or more pain than experienced pre surgery. A new surgical treatment of the implantation of spinal cord leads and stimulator, as well as the infusion pump, is helping some patients.

Because the diagnosis of this problem is poor, it is easy to see why patients with arachnoiditis have trouble with depression and low morale. A majority of the patients have improvements in pain but most will not be pain free. Both the patient and the physician understand that the treatment of this problem is less than acceptable. Hopefully, with the increased awareness of the problem, coupled with our more sophisticated methods of diagnosing arachnoiditis, we can better design treatment plans in the future.

There have been sporadic reports in medical literature of the surgical treatment of arachnoiditis. However, these reports have been mixed in their conclusions with both good and bad results. The situation in which the surgical approach works best seems to be when the inflammatory process is causing the formation of cysts within the arachnoid layer, and these cysts are creating pressure effects on the spinal cord. In this situation, opening the cysts and relieving the pressure will, on occasion, relieve the problem. Obviously, this will not apply to all cases and will only give relief in carefully selected cases.

## Related Diseases

**Cauda Equina Syndrome** refers to the signs and symptoms of damage to the nerves of the lower lumbar and sacral spinal nerve roots as they exit the spinal cord. These resemble the tail of a horse, hence the Latin name, and may be due to many causes: multiple disc herniation, trauma, inflammation, cancerous infiltration (seen only in cases of known, widespread cancer), and on occasion, infection of the surrounding disc or vertebral bodies. It is atypical to have prominent bowel and bladder incontinence as part of Cauda Equina syndrome, as to produce this requires damage to most or all of BOTH sides of the sacral nerves (#S2, S3 and S4), which is difficult to do with a single herniated disk for instance. Such prominent incontinence is more characteristic of a conus medullaris syndrome, where the very end of the spinal cord is compressed by a mass or disc (at the 1st or 2nd lumbar level), but exceptions do occur, and a diffuse inflammatory process could affect enough sacral nerves to accomplish this. (**Cauda Equina Syndrome**)

**Parsonage-Turner Syndrome**, or acute brachial plexitis, or neuralgic amyotrophy, is an acute inflammation affecting many nerve roots quickly, and may include wasting or atrophy of leg muscles. Surgery is a common trigger for this disorder. As of yet,

however, no doctor has recognized and proclaimed the existence of a lower extremity (leg) version of this disease, thus it is difficult to diagnose anyone with it.

**Fibromyalgia Syndrome/ Myofascial Pain Syndrome** - Myofascia is a thin, almost translucent film that wraps around muscle tissue. It is the tissue that holds all the other parts together. It gives shape to and supports all of the body's musculature. You can see myofascia if you cut up a fresh chicken. It is the thin, sticky, somewhat filmy material that wraps around the muscle tissue. It wraps around muscle fibers, bundles of fibers, and the muscles themselves, and then goes on to form tendons and ligaments. For people with fibromyalgia syndrome (FMS) and/or myofascial pain syndrome (MPS), the myofascia takes on a new importance. Tightening and thickening of the myofascia occurs in many cases of FMS and/or MPS. If both of these conditions are present, this tightening causes more than double the trouble. When the myofascial tissues become thickened and lose their elasticity, neurotransmitter ability to send and receive messages between the mind and body is damaged, and the communication between the mind and body is damaged. Myofascia, then, may well be the key to what goes wrong in FMS&MPS Complex. In the myofascia there is a material called ground substance. This material can exist in a solid, semisolid, or fluid state. When ground substance changes from a liquid to a gel, the myofascia tightens, and it is difficult to get it to reverse to a liquid state again without intervention. (<http://www.fmnetnews.com>)  
(Fibromyalgia/Myofascial Pain Syndrome)

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<http://csst-queca.com>