

## Neck and Arm Pain: The ‘Pinched Nerve’

Neck pain can be caused by a variety of problems, from a cervical strain injury such as whiplash to osteoarthritis to disc degeneration. When neck pain shoots down the arm into the forearm or hand, however, often the cause is a bone spur or herniated disc compressing one or more of the spinal nerves. In this article the causes, common symptoms, and treatment of this painful condition will be reviewed.

The spine serves two important functions: it supports the skeleton, and protects the spinal cord and nerves, which supply the electrical impulses that power muscles and allow movement and reaction to the outside world. The spinal column is made up of bones stacked on top of each other (the vertebrae) separated by intervertebral discs. A disc can be injured due to wear and tear (with damage from age and arthritis, smoking, or heavy labor) or in an overload setting such as a car accident or other trauma. Lifting or bending in just the wrong way can overload even a healthy disc, causing the ligament covering the disc to rupture. In some cases, the rubbery material inside the disc, called the nucleus, can rupture through this ligament, and compress a spinal nerve or even the spinal cord.

Patients typically experience neck pain traveling down the shoulder to the forearm or hand. Numbness and tingling can occur at times with the pain, or in isolation. Certain movements usually exacerbate this pain, such as extending the neck to work overhead, side rotation, or even sleeping in certain positions. Patients can also experience weakness of the affected arm.

Treatment of these disabling symptoms of a herniated disc in the neck starts with an examination by a primary medical physician, a physiatrist, or a spinal surgeon. It may be appropriate to use X-Rays or in select patients an MRI of the cervical spine to help establish the diagnosis. Physiotherapy is an important way to start to regain motion in the neck and combat the inevitable stiffness associated with the neck pain. It can include traction and manual therapy, but should include exercises to regain muscle strength and flexibility, thus restoring the normal mechanics of the neck. Some patients benefit from an anti-inflammatory medication or a mild pain-reliever until therapy can assist the body in reducing the inflammation. Rarely should the more potent narcotic medications be used, due to their side effects and heavy potential for addiction.

In some patients, having failed physical therapy and other conservative care (such as manual therapy, lifestyle adjustments, and smoking cessation), surgery is used to decompress the spinal nerves or spinal cord. Several surgical options are available to the spinal surgeon on an individual patient basis, such as a discectomy and fusion, or a cervical foraminotomy (removing a small amount of bone to create more room for the nerve root). Newer technologies such as disc replacements are also becoming available, though many of these are still in the experimental stages.

In time, most patients experience a dramatic improvement in their symptoms, whether through natural healing and lifestyle adjustments, physical therapy, or surgery. Long-term

disability is rare with these conditions provided appropriate treatment is given. If you have any of these symptoms, consult your medical physician or spinal surgeon for help.

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Figure legend: (something like this)

Side view MRI of a cervical spine, where a disc has herniated back towards the spinal cord and nerve roots. This patient required surgery to treat his pain and weakness in his arm, and recovered full strength and use of his arm without pain following his procedure.