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Myelopathy

Myelopathy is a term that means that there is something wrong with the spinal cord itself. This is usually a later stage of cervical spine disease, and is often first detected as difficulty walking due to generalized weakness or problems with balance and coordination. This type of process occurs most commonly in the elderly, who can have many reasons for having trouble walking or problems with gait and balance. However, one of the more worrisome reasons that these symptoms are occurring is that bone spurs and other degenerative changes in the cervical spine are squeezing the spinal cord. Myelopathy affects the entire spinal cord, and is very different from isolated points of pressure on the individual nerve roots.

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Myelopathy is most commonly caused by spinal stenosis, which is a progressive narrowing of the spinal canal. In the later stages of spinal degeneration, bone spurs and arthritic changes make the space available for the spinal cord within the spinal canal much smaller. The bone spurs may begin to press on the spinal cord and the nerve roots, and that pressure starts to interfere with how the nerves function normally.

Determining the amount of weakness that is present according to a standardized system can be used to assess the severity of each case of myelopathy. For example, according to the system of Nurick, myelopathy is graded from 0 to 5, with 5 being the most severe. The characteristic changes that occur at each different grade are as follows:

- Grade 0:** signs and symptoms of root involvement but without evidence of spinal cord disease.
- Grade 1:** signs of spinal cord disease but no difficulty in walking.
- Grade 2:** slight difficulty in walking but does not prevent full-time employment.
- Grade 3:** severe difficulty in walking that requires assistance and prevents full-time employment and avocation.
- Grade 4:** ability to walk only with assistance or with the aid of a frame.
- Grade 5:** chairbound or bedridden.¹

Myelopathies are also classified using the modified Frankel classification scale for cord damage due to any cause:

- Grade A:** complete motor and sensory involvement.

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Grade B: complete motor involvement, some sensory sparing including sacral sparing.

Grade C: functionally useless motor sparing.

Grade D: functional motor sparing.

Grade E: no neurologic involvement.²

Symptoms **Last Visited 05/26/2010**

Myelopathy can be difficult to detect, because this disease usually develops gradually and also occurs at a time in life when people are beginning to slow down a little bit anyway. Many people who have myelopathy will begin to have difficulty with things that require a fair amount of coordination, like walking up and down stairs or fastening the buttons on clothing. If you have had a long history of neck pain, changes in coordination, recent weakness, and difficulty doing tasks that used to be easier because your body seemed more responsive in the past, are definite warning signs that you should see a doctor.

Diagnosis

Surgery is usually offered as an early option for people with myelopathy who have evidence of muscle weakness that is being caused by nerve root or spinal cord compression. This is because muscle weakness is a definite sign that the spinal cord and nerves are being injured (more seriously than when pain is the only symptom) and relieving the pressure on the nerves is more of an urgent priority. However, the benefits of nerve and spinal cord decompression have to be weighed against the risks of surgery. Many people who have myelopathy due to degenerative cervical disorders are older and often a bit frail. Spine surgery can be a difficult stress for someone who is older or who has many different medical problems. However, your surgeon will be able to discuss the risks and benefits of surgery with you, and what the likely results are of operative versus non-operative treatment.

¹ Blauvelt, Carolyn Taliaferro and Nelson, Fred R. T., MD, FAAOS. A Manual of Orthopaedic Terminology. 6th ed. (St. Louis: Mosby, 1998) 282.

² Blauvelt, Carolyn Taliaferro and Nelson, Fred R. T., MD, FAAOS. A Manual of Orthopaedic Terminology. 6th ed. (St. Louis: Mosby, 1998) 283.

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