



Degenerative Cervical Myelopathy

Degenerative Cervical Myelopathy is the most common cause of spinal cord dysfunction. Patients are typically diagnosed in their 50s, and may report early symptoms of diminished dexterity, such as trouble buttoning clothing or using cell phones, and/or unsteadiness.

Q: What is degenerative cervical myelopathy?

DCM occurs when wear and tear changes in the cervical spine (the neck), such as disc degeneration or bone spur formation stress and injure the cervical spinal cord. This causes a slowly progressive loss of motor and sensory function, which can affect any part of the body from the neck downwards.

Until recently, around the world, this condition had 14 different names, including cervical spondylotic myelopathy. A recent process (AO Spine RECODE DCM), involving people living with DCM, sought to address this, and has selected DCM to be the single disease name going forward.

DCM is also often referred to as 'cervical myelopathy'. Technically, cervical myelopathy just means disease of the cervical spinal cord, of which there are many different causes. DCM is the most common.

Q: What are the symptoms of cervical myelopathy?

DCM can cause a wide range of different symptoms, that typically develop over time. Commonly these include any of the below symptoms:

- Neck pain and/or stiffness/or a reduced range of motion
- Weakness, numbness, and/or loss of dexterity in arms and hands
- Loss of balance and increased falls

- Weakness, stiffness, and/or sensory loss in arms or legs
- Increased presence of dull aches, stiffness and/or “pins and needles” sensation
- Bowel and bladder dysfunction, including impotence, incontinence, and urine retention

However, symptoms do vary from individual to individual for example, an individual who cannot button a coat easily and is falling more frequently may not experience neck pain. Symptoms can also appear to temporarily improve initially, as you find ways of managing them or compensating. This makes DCM very difficult to diagnose early; for example patients reporting numbness and pain in their hands are frequently initially misdiagnosed with carpal tunnel syndrome. A general lack of awareness about cervical myelopathy does not help this.

It can therefore be helpful to keep track of all problems in a dated journal or note-taking app, to monitor progression. The presence of progressive symptoms often helps to identify DCM but is also important to guide how it is managed. Share with your doctor or healthcare provider about new symptoms as they arise.

Q: How is degenerative cervical myelopathy diagnosed?

Magnetic resonance imaging (MRI) is needed to identify damage and compression to the spinal cord. In some circumstances where an MRI is not possible (for example if you have a particular type of implant that cannot go into an MRI), an alternative test is a CT Myelogram. However, doctors will also assess the patient history of symptoms, checking for changes in reflexes, numbness in arms and hands, weakness in the legs or difficulty walking, and any evidence of atrophied muscles. This is important, as the MRI features alone are not diagnostic and in fact, can often be seen in healthy adults.

Q: What treatments should I expect?

Treatment will depend on the severity of the condition. For milder cases, options include observation or physical therapy. Surgery is the primary course of treatment for cases causing more moderate or severe functional loss, or where symptoms are progressive. Different types of surgical interventions may be recommended depending on the location of the damage, but all share the primary goal of relieving pressure on the spinal cord.

Q: Who should treat cervical myelopathy?

Neurosurgeons or orthopedic spine surgeons treat cervical myelopathy and should be consulted in all cases to help guide further treatment. For even in cases where surgery is not recommended, careful monitoring for symptom progression is advised.

Q: What questions should I ask to find the best doctor or facility to treat cervical myelopathy?

Ask your surgeon about their specific experience treating degenerative cervical myelopathy. How many patients with DCM have they treated? What data can they report about their surgical outcomes? Can any of their former patients be made available to discuss their experiences with the treatment? Remember not all cases will require surgery. A good surgeon or medical practice will base treatment recommendations on specific symptoms and damage level, rather than advocating a one-size-fits-all approach to the condition.

Seeking a second opinion to help inform your decision is very sensible (if practical), especially given that there are many different types of surgery that could be performed. Overall, the main outcomes of each technique appear to be similar. Their individual risk and recovery profiles can be different and may be relevant to your decision making.

Q: How is degenerative cervical myelopathy related to central cord syndrome?

Central cord syndrome (CCS) is a specific type of traumatic spinal cord injury. It commonly occurs in people who have cervical stenosis (narrowing of the spinal canal around the spinal cord) as a result of degenerative changes in the cervical spine. It often occurs after a relatively minor trauma such as tripping or a fall from standing, and frequently occurs without a fracture or dislocation. A stereotypical pattern of motor weakness that predominantly affects the hands and forearm more so than the legs is seen. Burning pain called dysaesthesias may also occur. Patients with DCM may present with central cord syndrome and patients with CCS who have underlying cervical stenosis as a result of degenerative changes have DCM.

In normal circumstances, the spinal cord is free to move around the spinal canal with respect to different neck positions. However, the spinal cord can be injured by the surrounding structures whenever cervical stenosis is present. These injuries can occur over decades or may occur acutely with a sudden and uncontrolled movement.

While CCS is the most common form of incomplete spinal cord injury, it remains a rare event. People with DCM, not yet treated with surgery, are considered to have an increased risk of developing CCS due to their cervical stenosis and their increased risk of falling. This is often an important topic to discuss with your surgeon when deciding on whether or not to have surgery. It is observed that many people who suffer CCS also had undiagnosed DCM at the time.

Q: Is there anything that can be done to keep cervical myelopathy from progressing?

How DCM changes over time, or the factors that influence this, are poorly understood. Today, aside from surgery, there are no known treatments or lifestyle changes able to stop the disease from progressing. It is probably best to avoid smoking, as outcomes after surgery amongst smokers are poorer. There are also some indicators that a healthy diet and normal weight may also be beneficial. However, the core principle of care for DCM today is monitoring, to ensure that treatment options are discussed and any changes in symptoms or exams are recognized so that timely treatment can be offered. Early diagnosis is essential to ensuring good outcomes.

Sources: Johns Hopkins Medicine, The Hospitals of the University of Pennsylvania—Penn Presbyterian, Department of Neurological Surgery at the Neurological Institute of New York, The British Medical Journal (BMJ) and Myelopathy.org

Reviewed by:

Rex A.W. Marco, M.D.

Chief Medical Ambassador

Christopher & Dana Reeve Foundation and

Dr. Benjamin M. Davies, MBChB (hons), MRCS BSc (Hons), MPhil

Affiliated to:

Department of Neurosurgery, University of Cambridge, UK

Myelopathy.org (DCM Charity), UK

Need to talk to someone?

Our Information Specialists are available to answer your questions.

Call toll-free 1-800-539-7309 Mon-Fri, 7 am-8 pm EST.

Schedule a call or ask a question online at <https://www.ChristopherReeve.org/Ask>

Resources on DCM:

For consumers:

American Family Physician: Degenerative Cervical Myelopathy

<https://www.aafp.org/afp/2020/1215/p740-s1.html>

Cleveland Clinic: Myelopathy

<https://my.clevelandclinic.org/health/diseases/21966-myelopathy#diagnosis-and-tests>

Johns Hopkins Medicine: Cervical Myelopathy

<https://www.hopkinsmedicine.org/health/conditions-and-diseases/cervical-myelopathy>

Mayo Clinic: Cervical myelopathy: Discoveries paving the way to better care

<https://www.mayoclinic.org/medical-professionals/neurology-neurosurgery/news/cervical-myelopathy-discoveries-paving-the-way-to-better-care/mac-20488590>

Myelopathy.org

<https://myelopathy.org/>

Cambridge, UK

Email: info@myelopathy.org

A registered charity in the U.K., Myelopathy.org provides information and support on **cervical spondylotic myelopathy**. It has information for both medical professionals and the patient community.

For clinicians:

Milligan J., Ryan K., Fehlings M., et al. Degenerative cervical myelopathy: Diagnosis and management in primary care. *Can Fam Physician* 2019 Sept 65(9) 619-624.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6741789/>

Clinical Guidelines for treating DCM can be found in Global Spine Journal Vol. 7, No. 3 Supplement. Sept. 1, 2017.

https://journals.sagepub.com/toc/gsj/7/3_suppl

AO Foundation

<https://www.aofoundation.org/>

Switzerland

The AO is a medically-guided, not-for-profit organization, a global network of surgeons, and the world's leading education, innovation, and research organization specializing in the surgical treatment of trauma and musculoskeletal disorders.

The information contained in this message is presented for the purpose of educating and informing you about paralysis and its effects. Nothing contained in this message should be construed nor is intended to be used for medical diagnosis or treatment. It should not be used in place of the advice of your physician or other qualified health care provider. Should you have any health care related questions, please call or see your physician or other qualified health care provider promptly. Always consult with your physician or other qualified health care provider before embarking on a new treatment, diet or fitness program. You should never disregard medical advice or delay in seeking it because of something you have read in this message.

This publication is supported by the Administration for Community Living (ACL), U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling \$10,000,000 with 100 percent funding by ACL/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by ACL/HHS, or the U.S. Government.