

# Cervical Dystonia

## WHAT IS CERVICAL DYSTONIA?

Cervical dystonia, also called spasmodic torticollis, is the third most common movement disorder after Parkinson's disease and tremors.<sup>1</sup> The disorder is characterized by involuntary contractions of the neck muscles that cause twisting, repetitive movements or abnormal postures of the head. These muscle contractions hinder normal movement and can cause severe, chronic neck pain.

Most often, cervical dystonia develops between the ages of 30 and 50, and women are twice as likely to be affected as men.<sup>2</sup> Cervical dystonia belongs to a group of movement disorders collectively known as "focal dystonias" that affect approximately 250,000 people in North America.<sup>1</sup> Awareness of the condition, however, is extremely limited.

The symptoms of cervical dystonia usually develop gradually over a period of time, with the severity of symptoms levelling off after five years.<sup>3</sup> These symptoms can include painful contractions of the neck muscles that force the head to move forward (anterocollis), backward (retrocollis), sideways (laterocollis), or to twist to the left or right (torticollis). The neck spasms experienced by patients with this disorder may be constant or intermittent. This excessive muscle activity is often painful.

## WHAT CAUSES CERVICAL DYSTONIA?

Until recently, cervical dystonia was often misunderstood and misdiagnosed as stress, scoliosis, arthritis, or a variety of other conditions. Some forms of dystonia may also be genetic, as mutations in the *DYT-1* gene have been linked to an early-onset form of the disorder.<sup>4</sup> It is thought that each of these factors may somehow affect the basal ganglia of the brain, which is involved in the control and coordination of muscle activity, and cause the release of excessive and erratic signals to the neck muscles.<sup>5</sup> Although the exact cause of the disorder is unknown, cervical dystonia has been observed to develop in conjunction with an injury to the brain or neck muscles (i.e., whiplash), or after prolonged exposure to certain neuroleptic or anti-psychotic drugs.

Physicians use a variety of tools including function and movement scales, global assessment scales and pain scales to assess the degree of disease progression and determine which treatment will provide the most benefit to the patient.

## **HOW IS CERVICAL DYSTONIA TREATED?**

Cervical dystonia is treated by various medical experts, including neurologists, movement disorder specialists and otolaryngologists (ear, nose and throat specialists). While there is no cure for cervical dystonia, there are treatment options that can help relieve the excessive muscle spasms of the neck and shoulder muscles, as well as associated neck pain.

BOTOX<sup>®</sup> (botulinum toxin type A) injection was approved by Health Canada in 1995 for the treatment of cervical dystonia in adults and is used to decrease severity of abnormal head position and associated neck pain.<sup>6</sup> Derived from the bacterium *Clostridium botulinum*, BOTOX<sup>®</sup> therapy inhibits the release of a neurotransmitter, acetylcholine, from nerve cells, blocking the signals that promote involuntary muscle contractions. The effect is temporary and the treatment needs to be re-administered approximately every three months depending on the individual patient.

Other current therapies used for cervical dystonia include benzodiazepines, baclofen (an anti-spasmodic agent), anti-cholinergic agents, and surgical denervation. While the benzodiazepines interfere with chemical activities between nerve cells in the brain, reducing muscle contractions, baclofen acts primarily on the spinal cord to reduce the amount of contractions. The anti-cholinergic agents block the release of acetylcholine from nerve cells and are usually administered orally to patients with early-onset cervical dystonia. In severe cases, surgeries in which either the nerve cell is removed from the contracting muscle or a section of the muscle itself is removed are recommended in patients who do not respond to less invasive therapy.

Finally, physical therapy is recommended in all patients with cervical dystonia. Stretching exercises and neck braces have been shown to ease the severity of contractions and are recommended in addition to medication and/or other therapies. Patients should speak to a physician to fully understand their treatment options.

**For more information, please contact:**

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**REFERENCES:**

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