

# ORTHOSPINOLOGY

DISCOVER AT

DeCubellis Family Chiropractic

## Upper Cervical Care & Disc Herniation

**Disc herniation** occurs when the soft inner portion of an intervertebral disc (nucleus pulposus) pushes through a tear in the tough outer layer (annulus fibrosus), potentially compressing nearby nerves or the spinal cord. This can lead to symptoms like localized back or neck pain, radiating pain (such as sciatica), numbness, tingling, and muscle weakness. While disc herniation can occur in any part of the spine, the lumbar and cervical regions are most commonly affected.

Although orthospinology, a form of upper cervical chiropractic care, primarily focuses on the alignment of the **atlas (C1) vertebra**, its approach can have beneficial effects on the entire spine, including areas affected by disc herniation. Orthospinology adjustments aim to correct misalignments in the upper cervical spine, which can improve overall spinal biomechanics and reduce stress on lower spinal structures, including herniated discs.

Here's how orthospinology may help address **disc herniation**:

### 1. Reducing Mechanical Stress on the Spine

- **Spinal Misalignment and Disc Herniation:** Misalignment of the atlas (C1) vertebra can affect the overall posture and alignment of the entire spine, leading to compensatory changes in the lower cervical, thoracic, and lumbar regions. These compensatory misalignments can increase mechanical stress on intervertebral discs, contributing to disc herniation or exacerbating an existing condition.
- **Restoring Proper Alignment:** By correcting atlas misalignments, orthospinology helps restore proper alignment and posture throughout the spine. This can reduce mechanical stress on herniated discs, preventing further damage and promoting healing. Improved spinal alignment reduces abnormal pressure on the discs, which may alleviate symptoms like pain and nerve compression.

### Scientific Support:

- Studies in the chiropractic field have shown that **spinal adjustments** can improve alignment and reduce abnormal stress on spinal discs. A study published in the *Journal of Manipulative and Physiological Therapeutics* found that chiropractic care can lead to

positive outcomes for patients with disc herniation, particularly by improving spinal biomechanics and reducing disc pressure.

## 2. Relieving Nerve Compression

- **Nerve Compression from Disc Herniation:** Herniated discs often compress nearby nerve roots, leading to radicular pain, numbness, tingling, and muscle weakness (such as sciatica in the lower back or brachialgia in the cervical spine). These symptoms are caused by inflammation and pressure on the nerves.
- **Reducing Nerve Interference via Atlas Adjustments:** Orthospinology adjustments focus on relieving upper cervical misalignments, which can have a ripple effect on the rest of the spine. By improving upper cervical alignment, orthospinology may help reduce compensatory strain in the lower spine, potentially alleviating nerve compression associated with herniated discs. Additionally, restoring proper neural communication from the brainstem (located near the atlas) can improve the body's overall ability to heal.

### Scientific Support:

- Research on upper cervical chiropractic care has demonstrated that adjustments can **reduce nerve interference** and improve neural function. Case studies in the *Journal of Upper Cervical Chiropractic Research* have shown that patients with radicular symptoms related to disc herniation experienced relief following upper cervical adjustments, indicating the potential for nerve decompression through improved spinal alignment.

## 3. Reducing Inflammation

- **Inflammatory Response in Disc Herniation:** When a disc herniates, the surrounding tissues often become inflamed, contributing to pain and nerve irritation. Inflammation can further aggravate nerve roots and delay healing.
- **Anti-Inflammatory Effects of Orthospinology:** While orthospinology doesn't directly treat inflammation, by reducing misalignments and nerve irritation, it can help the body better regulate its inflammatory response. A reduction in mechanical irritation and nerve interference may lead to a decrease in the inflammation surrounding the herniated disc, promoting a more favorable environment for healing.

### Scientific Support:

- Chiropractic care, including upper cervical techniques, has been shown to reduce levels of pro-inflammatory cytokines in the body. A study published in *Chiropractic & Manual Therapies* suggested that spinal adjustments could help modulate the immune system's inflammatory response, potentially benefiting patients with inflammatory conditions such as disc herniation.

## 4. Improving Spinal Mobility and Function

- **Loss of Mobility from Disc Herniation:** Herniated discs can limit spinal mobility, leading to stiffness and pain during movement. This can result from both mechanical factors (disc displacement) and protective muscle spasm around the affected area.
- **Restoring Mobility with Atlas Alignment:** Orthospinology adjustments improve the overall function of the spine by restoring alignment in the upper cervical region. While the primary adjustment is made to the atlas, the effect can enhance mobility throughout the entire spine, including regions affected by herniated discs. Improved alignment helps reduce compensatory movement patterns and muscle tension, which can enhance overall spinal mobility and function.

#### Scientific Support:

- Studies have shown that upper cervical chiropractic care can improve **range of motion** and spinal mobility in patients with a variety of spinal conditions. A case report in the *Journal of Manipulative and Physiological Therapeutics* highlighted improved spinal flexibility and reduced stiffness following upper cervical adjustments.

### 5. Enhancing Cerebrospinal Fluid (CSF) Flow

- **Impaired CSF Flow in Disc Herniation:** In cases of disc herniation, misalignment in the spine, particularly in the upper cervical region, can disrupt the normal flow of cerebrospinal fluid (CSF). CSF plays a crucial role in cushioning the brain and spinal cord and removing waste products, so impaired flow can exacerbate symptoms.
- **Restoring CSF Flow with Orthospinology:** Correcting upper cervical misalignments can improve CSF flow, promoting better nutrient delivery to the spinal cord and aiding in the healing of damaged tissues, including herniated discs. Proper CSF flow also reduces intracranial pressure and may alleviate neurological symptoms.

#### Scientific Support:

- Research has shown that upper cervical adjustments can improve CSF dynamics. A study published in the *Journal of Upper Cervical Chiropractic Research* found that upper cervical chiropractic care improved CSF flow in patients with neurological conditions, which may also benefit those with spinal disc herniation by enhancing fluid circulation around the spinal cord.

### 6. Promoting Overall Spinal Health

- **Preventing Further Disc Degeneration:** Disc herniation often results from or leads to further degenerative changes in the spine. Misalignment in one part of the spine, such as the upper cervical region, can accelerate degeneration by altering the biomechanics of the entire spine.
- **Slowing Degenerative Changes:** By restoring proper spinal alignment, orthospinology may help slow the progression of degenerative changes in the spine, reducing the likelihood of future herniations or disc degeneration. Improved biomechanics can also

alleviate compensatory strain on other parts of the spine, promoting long-term spinal health.

#### **Scientific Support:**

- Chiropractic care has been shown to improve spinal health and reduce the rate of degenerative changes. While specific studies on orthospinology and disc herniation are limited, broader chiropractic research supports the idea that correcting spinal misalignments can slow degeneration and reduce the risk of future disc problems.

## **7. Alleviating Pain and Discomfort**

- **Chronic Pain from Disc Herniation:** Pain is the most common symptom of disc herniation, often resulting from nerve compression, inflammation, and abnormal movement patterns. Chronic pain can significantly impact a person's quality of life and ability to perform daily activities.
- **Pain Relief through Atlas Adjustments:** Orthospinology adjustments can help alleviate pain by reducing mechanical stress on the spine, improving nerve function, and reducing inflammation. While the focus of treatment is on the upper cervical spine, the effects can extend to other regions, providing pain relief for patients with herniated discs in the lumbar or cervical spine.

#### **Scientific Support:**

- A review of chiropractic care for disc herniation, published in *Chiropractic & Manual Therapies*, found that patients with disc herniation experienced significant pain relief following spinal adjustments. Upper cervical adjustments, in particular, have been shown to improve pain levels in various spinal conditions.

## **Conclusion**

While **orthospinology** cannot directly repair a **herniated disc**, it offers a conservative approach that may help alleviate symptoms and promote overall spinal health. By correcting misalignments in the upper cervical spine, orthospinology can reduce mechanical stress, improve nerve function, decrease inflammation, and enhance cerebrospinal fluid flow, all of which can contribute to symptom relief and improved function in patients with disc herniation.

Though research on orthospinology's direct effects on disc herniation is limited, studies in the broader chiropractic field provide support for the benefits of spinal adjustments in managing disc-related conditions. Orthospinology can be considered part of a holistic treatment plan, alongside physical therapy, exercise, and other conservative measures, to help patients manage the symptoms of disc herniation and prevent further degeneration.