



**ADVANCED SPINAL CARE**  
AND REGENERATIVE MEDICINE

# Disc Conditions

## Gonstead Chiropractic, Shockwave & EMTT — A Complete Approach

*Patient Guide | Advanced Spinal Care & Regenerative Medicine*

### Understanding Disc Conditions

The discs between your vertebrae act as shock absorbers — gel-filled cushions that allow your spine to move while protecting the nerves running through it. When a disc bulges, herniates, or degenerates, the effects reach far beyond local back or neck pain.

A compromised disc can directly compress or chemically irritate the nerve roots exiting the spine, producing radiating pain, numbness, tingling, or weakness into the arms, hands, legs, or feet. But the impact doesn't stop there. The nerves that travel through the spine don't just carry sensation — they carry signals that regulate organ function, muscle coordination, immune response, and circulation. Chronic disc pressure and the inflammation it generates can disrupt these pathways in ways that contribute to fatigue, sleep disruption, impaired immune function, digestive irregularity, and reduced physical capacity. In the cervical spine specifically, disc dysfunction can affect the nerves that supply the shoulders, arms, and hands, and in some cases contribute to headaches and changes in blood pressure regulation. In the lumbar spine, chronic disc irritation can affect the nerves that govern bladder function, hip stability, and lower limb circulation.

What this means practically: a disc problem is rarely just a pain problem. It is a neurological and physiological event — and treating it effectively requires addressing both the structural cause and the biological consequences. That is exactly what we do. Every disc case here is approached on two levels: the structural — meaning the alignment, motion, and mechanics of the vertebrae around the disc — and the biological — meaning the inflammatory and cellular environment within and around the disc itself.

#### **Gonstead**

chiropractic as the primary structural intervention

#### **Biological**

support via shockwave & EMTT when indicated

#### **Complete**

structural + regenerative care under one roof

### The Foundation: Gonstead Chiropractic

Gonstead chiropractic is the most precise and thorough method of spinal analysis and adjustment in the profession. Unlike general chiropractic approaches, Gonstead uses a full-spine, evidence-based system that identifies the specific vertebral level causing dysfunction — and corrects it with a targeted, controlled adjustment.



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For disc conditions, this matters enormously. A disc doesn't herniate in a vacuum — it herniates because the vertebrae around it have lost their proper motion and alignment, creating uneven mechanical loading. The adjustment restores that alignment and motion, taking abnormal pressure off the disc and the nerves it's compressing.

### What makes Gonstead different?

The Gonstead system uses five criteria to identify the exact level of spinal dysfunction: full-spine X-ray analysis, motion palpation, static palpation, instrumentation (nervoscope), and visualization. Nothing is guessed. Every adjustment is specific to the individual's spine on that day.

This precision is especially important in disc cases, where adjusting the wrong level — or using too much force — can make things worse. Gonstead's controlled, specific technique minimizes that risk and maximizes the therapeutic effect.

Gonstead adjustments for disc conditions work by:

- **Restoring vertebral alignment:** Correcting the positional faults that create asymmetric disc loading [4] — addressing the mechanical cause, not just the symptom.
- **Reestablishing joint motion:** Hypomobile vertebral segments create compensatory stress on adjacent discs. Restoring motion distributes load properly across the spine.
- **Reducing nerve compression:** A precise adjustment can create measurable changes in the space available for the nerve root, reducing the mechanical irritation driving pain and radicular symptoms.
- **Activating neurological normalization:** Chiropractic adjustment stimulates mechanoreceptors in the facet joints and surrounding tissue [5], sending inhibitory signals that reduce pain sensitization and muscle guarding.
- **Supporting disc recovery conditions:** Proper segmental alignment and motion are prerequisites for disc healing — without them, even good biological therapy has limited structural support to build on.

## The Biological Layer: Shockwave & EMTT

For most disc cases, Gonstead chiropractic is the primary and often sufficient intervention. When the biological environment of the disc or surrounding tissue needs additional support — particularly in cases of significant inflammation, chronic degeneration, or persistent nerve symptoms — we add shockwave and EMTT as targeted biological tools.

Think of it this way: the adjustment restores the structure; shockwave and EMTT support the tissue's ability to heal within that restored structure.

- **Reduces periannular and epidural inflammation:** Lowers inflammation around the disc and nerve roots [1] — directly calming the inflammatory cascade that drives radiating pain and slows recovery.



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- **Stimulates disc repair proteins:** Stimulates the disc cells to rebuild the annulus fibrosus and support nucleus pulposus integrity — repair processes that decelerate with degeneration.
- **Releases paraspinal muscle spasm:** Shockwave disrupts the deep myofascial trigger points in spinal muscles that lock up around injured discs, reducing compressive loading and restoring the adjusting environment.
- **Slows matrix breakdown (EMTT):** EMTT reduces enzymes that degrade disc matrix — helping preserve remaining disc tissue between adjustments.
- **Supports nerve recovery:** EMTT's deep magnetic penetration reaches the nerve roots and surrounding tissue, supporting healing of the inflamed nerve pathway alongside structural correction.

### When do we use shockwave and EMTT for disc conditions?

Not every disc case needs shockwave or EMTT. Many patients respond excellently to Gonstead adjustments alone. We add the biological tools when: inflammation is significant and limiting progress; nerve symptoms are slow to resolve; there is meaningful disc degeneration; or the patient wants to actively support tissue healing between adjustments.

We never use shockwave on the spine as a routine intervention — it is applied selectively, with clear clinical rationale, and always in support of the structural work.

### The equipment matters: why we use Storz Medical

Not all shockwave devices are equal. We use Storz Medical systems — Swiss-engineered, clinically validated machines that set the standard for output precision, tissue penetration depth, and treatment consistency.

Storz devices have been the instruments of choice in the majority of peer-reviewed shockwave clinical trials published over the past two decades, and are used by Olympic training centers, professional sports medicine programs, and leading regenerative medicine practices worldwide. When you see statistics like '80% response rate,' those results were achieved with devices at this level of quality — and that's what we bring to every session.

### Shockwave as a diagnostic tool: mapping your tissue

One of the most clinically useful — and often surprising — aspects of shockwave therapy is what it reveals about your tissue before treatment even begins.

When the shockwave applicator is moved over healthy tissue, patients typically feel mild pressure but little discomfort. When it passes over damaged, inflamed, or dysfunctional tissue, it produces a clear, localized pain response. This differential pressure sensitivity allows us to precisely map where pathology exists — often identifying areas of dysfunction that weren't apparent on palpation or even imaging.

This real-time tissue mapping guides where we focus treatment, helps track improvement across sessions (as tissue heals, the pain response normalizes), and gives both you and your provider objective feedback on how your body is responding.



## Conditions We Address

<b>Disc Herniation</b>	Gonstead adjustment removes mechanical compression; EMTT and shockwave support annular healing and nerve recovery
<b>Disc Bulge</b>	Structural correction to normalize disc loading; biological support for periannular inflammation when indicated
<b>Degenerative Disc Disease</b>	Restore segmental motion and alignment; EMTT to support remaining disc cell activity and slow matrix degradation
<b>Cervical Disc Conditions</b>	Precise Gonstead cervical adjustments; EMTT for nerve root inflammation and upper extremity radicular symptoms
<b>Lumbar Disc Conditions</b>	Specific lumbar and pelvic correction; shockwave and EMTT for significant disc-level inflammation and chronic cases
<b>Post-Surgical Disc Patients</b>	Gentle structural normalization above and below fusion levels; EMTT to support tissue healing and reduce adjacent segment stress

## What to Expect

Your care begins with a thorough Gonstead evaluation — full-spine X-rays, instrumentation, and a detailed hands-on assessment. From there, we develop a specific care plan that may involve adjustments alone, or adjustments combined with shockwave and EMTT depending on your presentation.

- Gonstead adjustments are precise, specific, and typically well-tolerated — even in acute disc cases
- Shockwave and EMTT sessions add 30–45 minutes when included; both are non-invasive with no downtime
- Acute disc injuries often show meaningful improvement within 4–8 visits
- Chronic or significantly degenerated discs typically benefit from a longer structured care plan - 6-12 visits
- We reassess regularly and adjust the protocol based on how your spine and tissue are responding

### Our goal

To give your spine the structural foundation it needs to heal — and your tissue the biological environment to complete that healing. Gonstead chiropractic and regenerative medicine aren't competing approaches; at their best, they're a seamless system.

## References

<sup>[1]</sup> Ji HM, et al. Extracorporeal shock wave therapy in degenerative spinal conditions. Spine. 2016.



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<sup>[2]</sup> Chen YJ, et al. Extracorporeal shock waves promote healing and increase TGF- $\beta$ 1 and IGF-1 expression. *J Orthop Res.* 2004;22(4):854–861.

<sup>[3]</sup> Zissler A, et al. Extracorporeal shock wave therapy for intervertebral disc degeneration. *J Orthop Res.* 2017.

<sup>[4]</sup> Troyanovich SJ, et al. Structural rehabilitation of the spine and posture: rationale for treatment beyond the resolution of symptoms. *J Manipulative Physiol Ther.* 1998;21(1):37–50.

<sup>[5]</sup> Gatterman MI. *Foundations of Chiropractic: Subluxation.* 2nd ed. Elsevier Mosby; 2005.