

Clinical Summarization Report

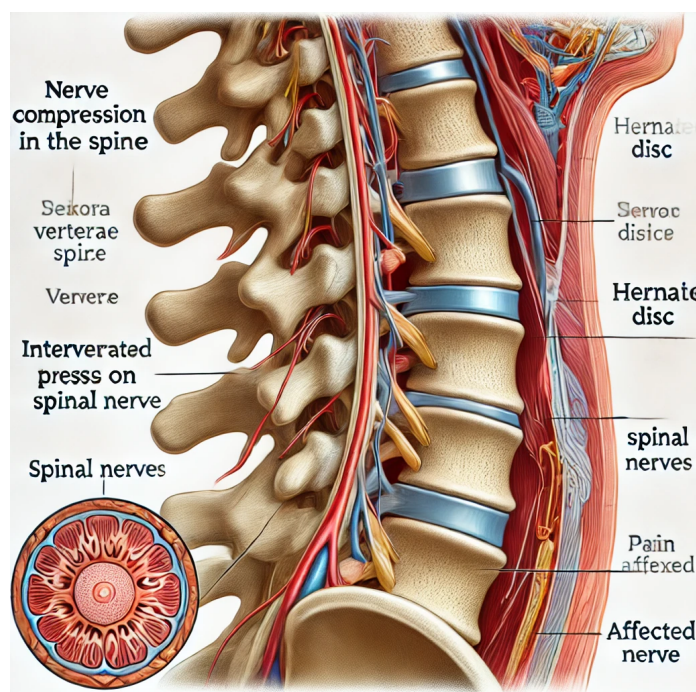
A Pain Management
Treatment Perspective

Treating Radiculopathy PAIN with Electroanalgesia by NeuroMed and Spinal Decompression Treatments

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Pain caused by radiculopathy, which is a condition caused by compression, irritation, or inflammation of spinal nerve roots. This often results in pain, weakness, numbness, or tingling along the affected nerve pathway.

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Common Causes of Radiculopathy

1. **Herniated Disc (Slipped Disc)** – When the soft center of a spinal disc pushes through its outer layer, pressing on nearby nerve roots.
2. **Degenerative Disc Disease** – Age-related wear and tear that leads to disc shrinking and loss of cushioning, increasing nerve compression.
3. **Spinal Stenosis** – Narrowing of the spinal canal, which puts pressure on the nerves.
4. **Bone Spurs (Osteophytes)** – Extra bone growth due to arthritis or aging that compresses nerve roots.
5. **Spondylolisthesis** – When a vertebra slips forward over another, pinching the nerve.
6. **Trauma or Injury** – Accidents, falls, or repetitive strain injuries can lead to nerve compression.
7. **Tumors or Infections (Rare Causes)** – Growths or infections near the spine can press on nerves.

Types of Radiculopathies (Based on Location)

- **Cervical Radiculopathy (Neck)** – Causes pain, numbness, or weakness in the arms and hands.
- **Thoracic Radiculopathy (Upper/Mid-Back)** – Less common; may cause chest or rib pain.
- **Lumbar Radiculopathy (Lower Back, Sciatica)** – Causes pain, numbness, or weakness in the lower back, buttocks, legs, or feet (often called sciatica).

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Treatment Options for Radiculopathy

The best treatment for radiculopathy depends on its severity, cause, and location (cervical, thoracic, or lumbar). Treatments range from conservative methods to surgical intervention if necessary.

1. Conservative (Non-Surgical) Treatments

Most cases improve with non-invasive methods within a few weeks to months.

Medications

- Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) – Ibuprofen, naproxen, or aspirin to reduce pain and inflammation.
- Muscle Relaxants – Cyclobenzaprine or baclofen to ease muscle spasms.
- Neuropathic Pain Medications – Gabapentin or pregabalin for nerve pain relief.
- Corticosteroids (Oral or Injection) – Reduce inflammation around the nerve root.

Physical Therapy (PT)

- Strengthens core and spinal muscles to reduce pressure on nerves.
- Improves posture and flexibility.
- Techniques include stretching, traction, and manual therapy.

Electroanalgesia

- Electroanalgesia: Blocks pain signals using mild high frequency electrical energy.
- Interferential Current Therapy (IFC): Deeper electrical stimulation for pain relief.

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Chiropractic Care & Spinal Manipulation

- Can help with alignment issues but should be approached with caution, especially if a herniated disc is present.

Lifestyle Modifications

- Posture Correction: Maintaining proper spinal alignment when sitting, standing, or lifting.
- Weight Management: Reduces stress on the spine.
- Ergonomic Adjustments: Supportive chairs, standing desks, or lumbar cushions.

2. Interventional Treatments

If pain persists despite conservative care, minimally invasive procedures may help.

- Epidural Steroid Injections (ESIs): Reduce inflammation and pain around the compressed nerve.
- Nerve Blocks: Anesthetic injections to temporarily relieve pain.
- Radiofrequency Ablation (RFA): Uses heat to disrupt pain signals from affected nerves.

3. Surgical Treatments (For Severe Cases)

Surgery is considered when symptoms are severe, progressive, or unresponsive to other treatments.

- Microdiscectomy: Removes part of a herniated disc pressing on a nerve.
- Laminectomy: Removes part of the vertebra to relieve nerve pressure (common for spinal stenosis).
- Spinal Fusion: Stabilizes the spine by fusing two vertebrae together

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When to See a Doctor Urgently

Seek medical attention if you experience:

- ✓ Severe weakness in the arms or legs
- ✓ Loss of bowel or bladder control (Cauda equina syndrome – a medical emergency)
- ✓ Worsening pain despite treatment

Electroanalgesia, can help manage radiculopathy symptoms but does not cure the underlying condition.

How Electroanalgesia Helps treating pain caused by Radiculopathy

1. Pain Modulation – Electroanalgesia blocks pain signals from reaching the brain by activating inhibitory pathways in the nervous system.
2. Muscle Relaxation – Helps reduce muscle spasms that often accompany nerve compression.
3. Improved Blood Flow – Certain modalities enhance circulation, which may aid in healing.
4. Endorphin Release – Stimulates natural pain-relieving chemicals in the body.

Limitations & Considerations

- Does NOT fix nerve compression (e.g., herniated discs, bone spurs).
- Relief is temporary and works best when combined with physical therapy.
- Contraindications: Not recommended for people with pacemakers, epilepsy, or certain cardiovascular conditions.

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Best Approach

Integrating electroanalgesia and spinal decompression therapy into treatment plans for conditions like radiculopathy offers several advantages over conventional therapies.

1. Electroanalgesia

Electroanalgesia, which utilize high frequency electrical energy to alleviate pain by depolarizing nerve cells responsible for transmitting pain signals to the brain, effectively reducing or eliminating pain sensations. An additional benefit of this approach is the enhancement of blood flow to nerves and surrounding tissues, promoting healing and improving overall quality of life. Electroanalgesia aim is to reduce pain perception and inflammation, providing symptomatic relief for conditions like radiculopathy.

2. Spinal Decompression Therapy

Spinal decompression therapy is a non-surgical, treatment designed to relieve pressure on spinal nerves and discs. Clinical studies have demonstrated that incorporating spinal decompression into conventional treatment plans leads to more effective outcomes compared to conventional treatment alone. Patients often experience significant improvements within 25-30 sessions, with continued progress observed up to four years post-therapy.

3. Combined Approach

While direct studies on the simultaneous use of electroanalgesia and spinal decompression are limited, integrating these therapies could potentially offer complementary benefits:

- **Enhanced Pain Relief:** Electroanalgesia may provide immediate pain reduction, allowing patients to better tolerate and benefit from spinal decompression sessions.

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- **Improved Functionality:** Addressing both pain and the underlying mechanical compression might lead to more comprehensive improvements in mobility and daily functioning.
- **Reduced Dependence on Medications:** Combining these therapies could decrease the need for pain medications, minimizing potential side effects.

Advantages Over Conventional Therapies

- **Enhanced Pain Relief:** Both electroanalgesia and spinal decompression have been associated with significant pain reduction, offering relief for individuals suffering from conditions like radiculopathy.
- **Improved Functionality:** These therapies not only alleviate pain but also enhance mobility and the ability to perform daily activities, contributing to a better quality of life.
- **Non-Invasive Treatment:** Both methods are non-surgical and do not involve needles, reducing the risks associated with invasive procedures and offering a safer alternative for pain management.
- **Promotion of Healing:** By increasing blood flow and nutrient supply to affected areas, these therapies support the body's natural healing processes, addressing the underlying causes of pain rather than merely masking symptoms.

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Notable Advantages

Integrating electroanalgesia and spinal decompression therapy into treatment plans for radiculopathy can offer notable advantages over conventional therapies. Below is a comparative chart highlighting these benefits:

Aspect	Electroanalgesia and Spinal Decompression	Conventional Therapies
Pain Reduction	Significant decrease in pain levels.	Variable outcomes; may require extended periods to achieve pain relief.
Functional Improvement	Enhanced lumbar range of motion and back muscle endurance.	Improvements depend on the specific therapy and patient adherence.
Non-Invasiveness	Non-surgical approaches with minimal risk.	Some therapies may involve invasive procedures or carry higher risks.
Quality of Life	Notable improvements in functional disability and physical roles.	Varies based on treatment efficacy and individual response.

Note: The effectiveness of any treatment can vary based on individual patient factors. It's essential to consult with healthcare professionals to determine the most appropriate therapy for specific conditions.

Effectiveness and Cost

When considering treatment options for pain caused by radiculopathy, it's essential to evaluate both effectiveness and cost. Below is a comparison of electroanalgesia, spinal decompression therapy, and alternative treatments:

1. Electroanalgesia

Electroanalgesia, including therapies like Interferential Current Therapy (IFC), aims to alleviate pain through electrical nerve stimulation.

- Cost per Session: Varies by provider and location; specific pricing data is limited.
- Total Treatment Cost: Depends on the number of sessions required; often used as part of a comprehensive pain management plan.

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2. Spinal Decompression Therapy

This non-surgical treatment involves gently stretching the spine to relieve pressure on spinal discs and nerves.

- Cost per Session: Ranges from \$200 to \$300.
- Total Treatment Cost: Most patients require 15 to 30 sessions, leading to a total cost between \$6,000 and \$7,500.

3. Alternative Treatments

a. Epidural Steroid Injections (ESIs):

ESIs involve injecting corticosteroids directly into the epidural space to reduce inflammation and pain.

- Cost per Injection: Varies; specific pricing data is limited.
- Effectiveness: Provides temporary relief; may need multiple injections.

b. Physical Therapy:

Customized exercises and stretches aim to strengthen muscles and improve flexibility.

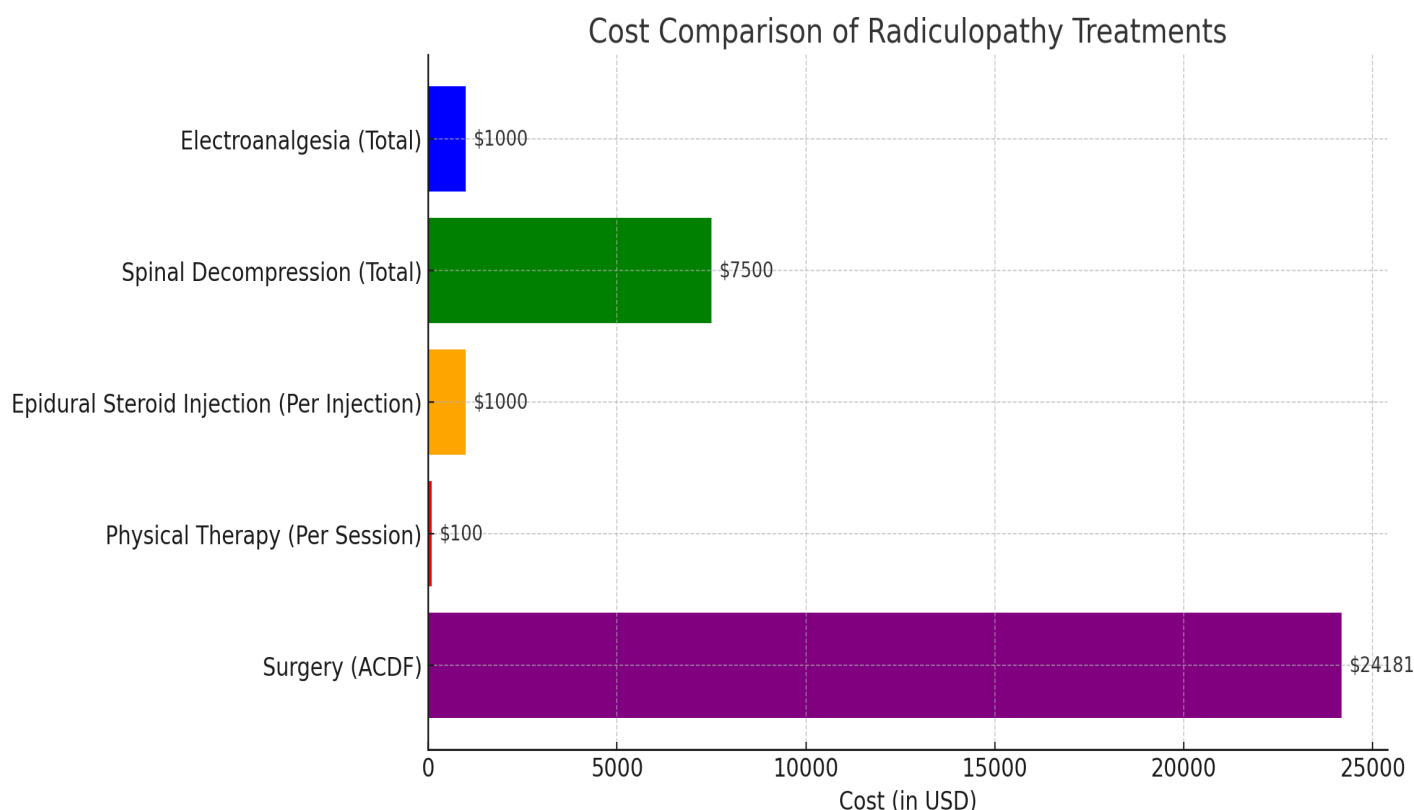
- Cost per Session: Typically ranges from \$50 to \$150, depending on location and provider.
- Total Treatment Cost: Depends on the number of sessions prescribed.

c. Surgery:

Surgical interventions, such as Anterior Cervical Discectomy and Fusion (ACDF), are considered when conservative treatments fail.

- Cost: The average cost for ACDF is approximately \$24,181 per patient.
- Effectiveness: Surgery can provide significant relief but comes with higher risks and longer recovery times.

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Considerations

- **Insurance Coverage:** Out-of-pocket costs vary based on individual insurance plans.
- **Effectiveness:** Treatment efficacy varies; consult with a healthcare provider to determine the most appropriate option.
- **Long-Term Costs:** While some treatments have higher upfront costs, they may be more cost-effective in the long run if they provide lasting relief.

Other Considerations

While electroanalgesia and spinal decompression therapy offer notable benefits, it's essential to consult with a healthcare professional to determine the most appropriate treatment plan tailored to individual needs and medical conditions. Integrating these therapies with conventional treatments may provide a comprehensive approach to managing conditions like radiculopathy.

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In conclusion, electroanalgesia and spinal decompression treatments present significant advantages over traditional therapies, particularly in pain reduction, functional improvement, and non-invasive treatment options. However, individualized treatment plans should be developed in consultation with healthcare providers to ensure optimal outcomes.

While combining electroanalgesia with spinal decompression therapy shows promise for treating radiculopathy, more research is needed to fully understand their synergistic effects. Patients should work closely with their healthcare providers to develop a tailored treatment plan that addresses their specific needs and medical history.

For more information, Contact us:

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Electroanalgesia (EA) device is known as the NeuroMed Electroanalgesic Delivery System with the
MATRIX System software 1/1.0 Email: info@NeuroMedinc.com