Lumbar spinal stenosis: Can positional therapy alleviate pain?

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"Positional therapy with a wheeled walker may help patients with spinal stenosis to walk, as well as ease their pain. This conservative approach has minimum risks—and minimum costs."

FROM ABSTRACT

Methods:
We analyzed a retrospective case series of 52 patients with spinal stenosis confirmed by spinal imaging and walking limitations treated with a wheeled walker set to induce lumbosacral flexion.

Results:
Of the 52 patients, improvement in ambulation was classified as excellent for 30 (58%), good for 7 (13%), moderate for 8 (16%), and poor for 7 (13%).

Among 48 patients with neurogenic pain, pain relief was classified as excellent for 22 (46%), good for 11 (23%), moderate for 7 (14.5%), and poor for 8 (16.5%).

Conclusions:
These retrospective data from a case series support the hypothesis that positional therapy with a wheeled walker set to induce lumbosacral flexion relieves lower extremity symptoms of spinal stenosis.

This conservative strategy is an option for patients following the recommendations of the North American Spine Society, or for those who have contraindications (or aversions) to surgery or epidural injections, or who have found these options ineffective.

Positional therapy with a wheeled walker offers the possibility of short-term benefits for ambulation and pain, with minimal risks and costs.

THESE AUTHORS ALSO NOTE:

"When shoppers at the grocery store are leaning forward on their carts, many of them could be trying to relieve the pain of lumbar spinal stenosis."

"For patients with lumbar spinal stenosis, lower extremity symptoms can be debilitating and include loss of sensation, paresthesias, burning, pain, weakness, claudication, difficulty standing or walking, or nocturnal neuropathic pain in the feet, legs, or thighs."

"Axial loading (as occurs during walking) and spinal extension (as occurs in an erect position) both decrease the diameter of the central spinal canal and lateral recesses, and may cause nerve compression and lower extremity symptoms."

"In contrast, lumbosacral flexion—facilitated, for example, by leaning forward on a grocery cart—opens the spine and may reduce nerve compression and related symptoms."

In this study, 71% of patients reported excellent or good improvement in walking after 3 to 5 days of using a wheeled walker.

Also, a wheeled walker may decrease pain from spinal stenosis.

Patients were suspected of having spinal stenosis contributing to, or entirely responsible for, lower extremity neuropathic or claudication symptoms based on a positive positional history, including any of the following patterns:

1) Walking limitation in which the patient needed to sit or lean forward to get relief.

2) Constant, frequent, or occasional lower extremity symptoms of a neuropathic nature with an unclear cause that was exacerbated by walking or standing.

3) Nocturnal exacerbation of neuropathic symptoms affected by sleep position.

4) Significant improvement in ambulation when pushing a grocery cart, walker, or baby stroller, or when on a treadmill that induced lumbosacral flexion.

5) Spinal stenosis was confirmed by spinal imaging (magnetic resonance imaging or computed tomography scan) showing stenosis in areas corresponding to symptoms in the lower extremities.

Patients with lower extremity symptoms of lumbar spinal stenosis underwent a therapeutic trial of "positional testing" involving full-time use of a wheeled roller walker set to induce lumbosacral flexion for 3 days.

If patients experienced nocturnal exacerbation of neuropathic symptoms, they were encouraged to sleep in a recliner.

If patients with neuropathic symptoms wanted to continue sleeping in bed, they were encouraged to sleep with a pillow beneath their thighs (if sleeping on their back), or sleeping in a fetal position with a pillow between their thighs (if sleeping on their side).

RESULTS

Rapid and dramatic improvement was documented for most patients.

After 3 to 5 days, improvement in ambulation was:

Excellent	58%
Good	13%
Moderate	16%
Poor	13%

After 3 to 5 days, neurogenic pain relief was:

Excellent	46%
Good	23%
Moderate	14.5%
Poor	16.5%

Overall, 71% reported excellent or good pain relief after 3 to 5 days of using a wheeled walker.

Long-term results in the patients with excellent or good improvement in ambulation:

30% needed to keep using the walker extensively
59% needed to frequently continue using the walker
11% no longer needed to use the walker

CONCLUSION

"Patients deserve a trial of positional therapy with the wheeled walker."

"Positional therapy with a wheeled walker set to induce lumbosacral flexion alleviates lower extremity symptoms of spinal stenosis."

"This conservative strategy may be applicable to the evaluation and management of lower extremity symptoms of spinal stenosis regardless of presenting symptoms or source of medical care."

This conservative treatment strategy tends to improve ambulation and decrease pain, with minimal risks and costs.

"Walking limitations and lower extremity pain caused by spinal stenosis are physically and psychologically disabling. Relief can dramatically improve a person's quality of life. Improved ambulation may also aid in the management of concurrent medical conditions, such as diabetes and cardiovascular disease."

KEY POINTS FROM DAN MURPHY

1) "When shoppers at the grocery store are leaning forward on their carts, many of them could be trying to relieve the pain of lumbar spinal stenosis."

2) "For patients with lumbar spinal stenosis, lower extremity symptoms can be debilitating and include loss of sensation, paresthesias, burning, pain, weakness, claudication, difficulty standing or walking, or nocturnal neuropathic pain in the feet, legs, or thighs."

3) "Axial loading (as occurs during walking) and spinal extension (as occurs in an erect position) both decrease the diameter of the central spinal canal and lateral recesses, and may cause nerve compression and lower extremity symptoms."

4) "In contrast, lumbosacral flexion—facilitated, for example, by leaning forward on a grocery cart—opens the spine and may reduce nerve compression and related symptoms."

5) "Positional therapy with a wheeled walker may help patients with spinal stenosis to walk, as well as ease their pain. This conservative approach has minimum risks—and minimum costs."

6) This article concludes that a wheeled walker set to induce lumbosacral flexion relieves lower extremity symptoms of spinal stenosis.

7) In this study, 71% of patients reported excellent or good improvement in walking after 3 to 5 days of using a wheeled walker.

8) A wheeled walker may decrease pain from spinal stenosis.

9) Patients suspected of having spinal stenosis for lower extremity neuropathic or claudication symptoms may display any of the following patterns:

A)) Walking limitation in which the patient needed to sit or lean forward to get relief.

B)) Constant, frequent, or occasional lower extremity symptoms of a neuropathic nature with an unclear cause that was exacerbated by walking or standing.

C)) Nocturnal exacerbation of neuropathic symptoms affected by sleep position.

D)) Significant improvement in ambulation when pushing a grocery cart, walker, or baby stroller, or when on a treadmill that induced lumbosacral flexion.

10) Patients with nocturnal exacerbation of neuropathic symptoms are encouraged to sleep in a recliner.

11) If patients with neuropathic symptoms want to continue to sleep in bed they should sleep with a pillow beneath their thighs (if sleeping on their back), or sleep in a fetal position with a pillow between their thighs (if sleeping on their side).

12) Long-term results in the patients with excellent or good improvement in ambulation:

A)) 30% needed to keep using the walker extensively
B)) 59% needed to frequently continue using the walker
C)) 11% no longer needed to use the walker

13) "Patients deserve a trial of positional therapy with the wheeled walker."

14) "Positional therapy with a wheeled walker set to induce lumbosacral flexion alleviates lower extremity symptoms of spinal stenosis."

15) This conservative treatment strategy tends to improve ambulation and decrease pain, with minimal risks and costs.

16) "Walking limitations and lower extremity pain caused by spinal stenosis are physically and psychologically disabling. Relief can dramatically improve a person's quality of life. Improved ambulation may also aid in the management of concurrent medical conditions, such as diabetes and cardiovascular disease."

COMMENT FROM DAN MURPHY

The second reference cited in this study was a chiropractic study led by 1996 Life Chiropractic College West graduate Deed Harrison, DC:

[2. Harrison DE, Calliet R, Harrison DD, Troyanovich SJ, Harrison SO. A review of biomechanics of the central nervous system–part 1: spinal canal deformations resulting from changes in posture. J Manipulative Physiol Ther. 1999;22:227–234.]

On a personal experience note, I have had great results treating patients with subjective lumbar central canal stenosis with flexion adjustments, flexion distraction techniques, flexion pelvic blocking, and flexion exercises. The most effective flexion exercise I have found is the flexion pulley exercise using the home-care pulley exercise device from Circular Traction at (800) 247-6535 and (714) 847-8334. This same home-care pulley exercise device from Circular Traction is excellent for the adjunct management of disc degenerative disease of the lumbo-sacral spine.