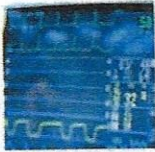




Health InfoCenter



Illnesses & Conditions

Information on diseases and health concerns, including symptoms, treatment options, and prevention.

VAX-D for low back pain

Treatment Overview

Vertebral axial decompression (VAX-D) is a treatment that stretches the spine, reducing pressure on the spinal discs. This reduction in pressure is meant to reduce chronic low back pain. At least 20 once-a-day sessions are typically recommended to relieve disc-related pain, followed by maintenance sessions. Between 20 and 40 sessions may be required to achieve pain relief.

For a VAX-D treatment, you lie on your abdomen on a computerized split table with a pelvic harness around your hips, and your arms extending over your head, hands grasping two handgrips. As the table slowly separates in two, punctuated by pauses, your back is stretched. If you are uncomfortable, letting go of the handgrips releases the tension on your back. A VAX-D session lasts about 45 minutes.

This type of treatment is not recommended for people with unstable spine conditions, nor for those who have rotator cuff syndrome or shoulder problems.

What To Expect After Treatment

After a VAX-D treatment session, you can expect to return to your usual daily activities. Continue to avoid bending, lifting, or twisting in a way that might typically injure your back.

Why It Is Done

VAX-D is intended to non-surgically relieve chronic low back pain or sciatic symptoms from degenerated or herniated discs.

How Well It Works

Research using VAX-D treatment for chronic low back pain has produced some encouraging results.

Vertebral Axial Decompression Therapy for Pain Associated with Herniated or Degenerated Discs or Facet Syndrome: An Outcome Study

Gose E., Ph.D, Naguszewski W., MD, Naguszewski R., MD,
Journal of Neurological Research, Volume 20, No 3, April 1998.

After an average of 17 to 20 VAX-D treatments for chronic facet joint or disc-related pain, about 70% of people reported a 50% or more reduction of pain. The only drawback of this study of 778 cases is that it was not a randomized controlled trial [RCT], meaning that subjects were not randomly assigned to

differing treatment groups. An RCT enables a more fair comparison between VAX-D and no treatment, placebo treatment, or another type of treatment.

A Prospective Randomized Controlled Study of VAX-D and TENS for the Treatment of Chronic Low Back Pain

Sherry E., MD FRACS, Kitchener P., MB, BS FRANZCR, Smart R., MB, Ch.B
Journal of Neurological Research Volume 23, No 7, October 2001

In a small, randomized controlled study, about 68% of VAX-D recipients reported a 50% or more reduction in pain. This study of 44 people compared VAX-D with transcutaneous electrical nerve stimulation [TENS], a therapy that uses electrical current delivered through electrodes to the skin for pain relief. No TENS recipients reported low back pain relief.

Risks

Available research has not reported information on complications of VAX-D. Possible risks include:

1. Development of sharp, burning, radiating pain during treatment.
2. Stress to the shoulder girdle and rotator cuff muscles.
3. Overstretching the soft tissues of the back.

What To Think About

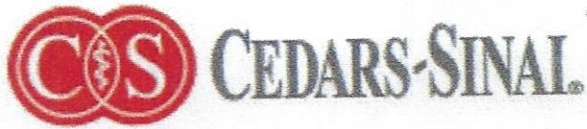
Various spine treatment centers around the country offer VAX-D treatment. VAX-D typically costs \$150 per daily session, and many health insurance providers do not cover it.

References

1. Vertebral Axial Decompression Therapy for Pain Associated with Herniated or Degenerated Discs or Facet Syndrome: An Outcome Study. Gose E., Ph.D, Naguszewski W., MD, Naguszewski R., MD, Journal of Neurological Research, Volume 20, No 3, April 1998. 20: 186-190. Available online: <http://www.vaxd.net/fracs.htm>.
2. A Prospective Randomized Controlled Study of VAX-D and TENS for the Treatment of Chronic Low Back Pain Sherry E., MD FRACS, Kitchener P., MB, BS FRANZCR, Smart R., MB, Ch.B Journal of Neurological Research Volume 23, No 7, October 2001 Available online: <http://www.vaxd.net/research.htm>.
3. Norris S, Burrige J (2002). Vertebral Axial Decompression Therapy for Chronic Low Back Pain. MSAC Assessment Report. Canberra, Australia: Medical Services Advisory Committee.

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Beth Israel Deaconess Medical Center



A Harvard Medical School Teaching Affiliate

Welcome Relief for Low Back Pain

J. Stewart

Beth Israel Deaconess Medical Center. Reviewed for medical accuracy by physicians at Beth Israel Deaconess Medical Center (BIDMC), Harvard Medical School

Introduction

"It's a miracle. I feel like a whole new person," raves 61-year old Kathleen Ross about what some believe to be a remarkably effective form of therapy for low back pain called vertebral axial decompression, or VAX-D. "I was in such pain from a chronic slipped vertebra that I couldn't bear to sit. Then lying down was the only way to relieve the pain. I was afraid I'd be this way for the rest of my life."

For years people like Kathleen, who suffer from chronic and acute low back pain, have relied on conventional therapies that included bed rest, manipulation, pain medication, and, in the most severe cases, surgery. Now an increasing number of patients are being referred by their physicians and surgeons to VAX-D therapy.

VAX-D is a noninvasive treatment that is said to work by alternately stretching and relaxing the lower spine, gently "distracting" the lumbar vertebrae and decompressing the intervertebral discs. In most cases, patients find they can now move more and get long- lasting relief from the crippling pain that comes with a variety of lower back problems.

Causes of Low Back Pain

Vertebral axial decompression (VAX-D) is a noninvasive treatment that is said to work by alternately stretching and relaxing the lower spine, gently "distracting" the lumbar vertebrae and decompressing the intervertebral discs. Low back pain is common in western culture, yet according to the North America Spine Society, the relationship between structural defect and pain is not always understood.

Mechanical back pain can come from inflammation caused by injury or irritation, a bulging or herniated disc, or simply the degeneration of discs that comes with aging. Compressive pain occurs when the spinal nerve roots are pinched or the blood supply to the nerve roots is cut off. In both cases pain can be aggravated by activities that increase "axial loading" such as sitting, standing, or lifting. Sometimes too much pressure from overexertion is the problem. Sometimes too little pressure from inactivity is to blame.

VAX-D is said to relieve the pressure between discs and decompress the nucleus within the disc in a controlled manner, which could cause healing to occur in a number of ways. The treatment is increasingly being recommended as front-line therapy in cases of herniated disc, degenerative disc, slipped vertebra, sciatica, posterior facet problems, and spinal nerve disorders, as well as for post-surgical patients who continue to suffer from "failed back syndrome."

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The VAX-D Table

The VAX-D Therapeutic Table was invented by Dr. Allan Dyer, the former Deputy Minister of Health of Ontario, Canada, and was approved by the FDA for use in the United States in 1994. At present, over 180 clinics offer VAX-D therapy throughout the US, and in Canada, Puerto Rico, Mexico and Australia.

The equipment consists of a mechanically controlled two-part table and a logic control system operated by a technician who constantly monitors and records the therapy cycles. Dr. J. Robert Wootton, a Florida-based physician and one of the earliest practitioners of VAX-D therapy in the United States, explains the procedure. "The patient lies face down on the extendable table, the upper body resting over the stationary portion, holding on to adjustable handgrips that can be released at any time for safety. The patient wears a specially fitted pelvic harness, which is attached to a 'tensionometer' at the foot of the table.

"As the table separates hydraulically, the harness gently pulls the lumbar spine downward, decompressing the vertebrae and the intervertebral discs. A typical half-hour session consists of fifteen (15) alternating cycles of distraction and relaxation, lasting 1 minute each. In most cases, the desired results are achieved within 20-30 daily sessions."

The amount of "pull" varies for each patient, depending on the degree of distraction necessary to treat the condition. In the beginning, and during relaxation cycles, the tensionometer maintains 20 pounds of pressure. Then it increases to between 65 and 85 pounds during decompression. A paper graph connected to the machine prints out a continuous record of the intradiscal pressure.

Interestingly, many professional athletes use the VAX-D table, set at 55 pounds of pressure, as a pre-exercise warm-up, according to Dr. Wootton. "The nerves in the lower back supply the legs, so if you take the pressure off the nerves to the legs, you have more power."

The Vacuum Effect

As tension is continuously applied to the harness, the pressure within the discs reaches a threshold at which it changes from a positive to a negative level, indicating decompression, or a vacuum. The precise control provided by the VAX-D table enables the therapist to determine the exact pull required to achieve optimal decompression. Many patients report instant reduction of pain during the session, as well as afterward.

The vacuum effect that is created inside the discs has "far-reaching therapeutic implications," according to Dr. Frank Tilaro, medical director for the Advanced Spinal Institute in Ogden, Utah, and director of clinical research for VAX-D Medical Technologies. "Prior to the introduction of VAX-D, a non-surgical method for disc decompression was unavailable. In numerous studies, conventional traction has never demonstrated a reduction of intradiscal pressure to negative ranges. On the contrary, many traction devices actually caused an increase due to reflex muscle

spasm." The two-part VAX-D table is designed to apply discrete progressive tension to the lumbar spine, without creating reflex muscle contractions in the upper vertebrae.

Dr. Wootton further explains the multiple effects of high-level decompression within the discs. "The powerful negative pressure from the vacuum draws back the herniated disc into its proper orientation, draws nutrient-rich spinal fluid into the disc, and stimulates repair cells, effectively mending the disc." Wootton adds, "VAX-D is the most promising non-surgical medical treatment for lumbar pain to be developed in many years."

Not everyone, however, is a candidate for VAX-D therapy. Contraindications include infection, degenerative arthritis, tumors, osteoporosis, fractures, or any condition that compromises the integrity of the spinal column. Prospective patients should be evaluated by a therapist or physician prior to therapy, and routine spinal X-rays should be taken. A CT scan or MRI may also be necessary to rule out any contraindications. To date, no serious side effects have been reported with VAX-D Therapy.

Long-Term Effects

According to clinical results gathered over the last 4 years, the vast majority of patients experience some degree of recovery with VAX-D therapy, and of those the majority remain in remission. (Some experts caution, however, that no well-designed trials have demonstrated the efficacy of this treatment.) Some patients choose to return for maintenance visits or to enhance the protective benefits of this treatment.

Although the safety and efficacy of VAX-D are said to be high, and the cost is relatively low (approximately 1/12 the cost of surgery), many insurance companies have yet to cover the procedure. This is changing, as VAX-D becomes more widely known.

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Hospital Management International • 2004

An official publication of The International Hospital Federation

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Orthopaedics: New Answers for an Age Old Problem

Evidenced Based Emerging Technology

Acute low back pain (LBP) is one of the most common and significant musculoskeletal problems in the world. It is the cause of considerable suffering and disability, and the economic costs to patients, industry and governments are staggering. Back disorders now account for almost 30% of all occupational injuries. Recent studies reveal that the average cost of a workers compensation claim for LBP (in the US) is now close to \$10,000 which is more than twice the average cost for all other compensable claims combined.

Even though this ailment usually has a benign course, it is responsible for direct health care expenditures in the United States of more than \$25 billion annually, and as much as \$100 billion per year when indirect costs are included. Despite these overwhelming statistics, the magnitude of the problem continues to skyrocket. Chronic low back pain is increasing faster than any other disability.

Experience in the last decade has shown that traditional management based on rest and passive care has been unsuccessful, actually promoting disability. A new treatment and model of care has now provided an answer for this age old problem. Intuitively, lumbar decompression should be successful in alleviating many of the conditions that cause low back pain and associated radiculopathy. Technology has finally provided the answer and discs and nerves can now be effectively decompressed non-surgically.

Emerging Technology

VAX-D or Vertebral Axial Decompression is an

emerging technology that addresses the biomechanical aspects of disc disease and is now being widely used in the United States for chronic low back pain sufferers. Clinical studies done by the Departments of Neurosurgery and Radiology, Rio Grande Regional Hospital, McAllen, and Division of Neurosurgery, Health Sciences Center, University of Texas, San Antonio, Texas have documented VAX-D's ability to actually lower the intradiscal pressure to negative levels. Prior to the introduction of VAX-D the successful application of lumbar distractive forces has been limited by the technological design of ineffective traction devices.

An outcome study on 778 patients and prospective Randomized Controlled Trial (RCT) done at the University of Sydney in Australia both reported approximately 70% success rates and improvements in functional outcomes with chronic disc cases. A recent RCT (2004) conducted by Dr. G. Ramos, Neurosurgeon at HCA Rio Grande Regional Hospital in Texas has also published success rates of 70%.

In addition, several research studies have now been published examining the mechanism of action of VAX-D. Studies in Canada and the US have reported that lumbar nerve root decompression is achieved with VAX-D Therapy. VAX-D has a growing body of research publications which include several randomized control trials (RCT) conducted in the US, and RCT in Australia and many other studies examining the mechanism of action. All studies can be viewed at www.vaxd.com.

Hospital Management International

An official publication of The International Hospital Federation

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THE ANNUAL REVIEW OF HOSPITAL & HEALTHCARE PLANNING & DEVELOPMENT • 2004

Public demand for VAX-D is driving the expansion of VAX-D centers in the United States, Australia, Mexico, Canada, Puerto Rico and Europe. The insurance industry views VAX-D as a standard of care that should be exercised prior to surgery.

'An outcome study on 778 patients and prospective Randomized Controlled Trial (RCT) done at the University of Sydney in Australia both reported approximately 70% success rates and improvements in functional outcomes with chronic disc cases.'

Putting People Back to Work

Workman's Compensation boards in the United States are rapidly reducing their costs by adopting policies referring injured workers with LBP for VAX-D treatment. Workers complete the target therapy in the initial phase of disease and return to work. Patients undergo 20-25 daily decompression treatments along with the concomitant use of agents such as Methylprednisolone, NSAID's and Doxycyline. They can then manage the disease thereafter if they are re-injured.

VAX-D therapy's continuing high success rates in private clinics, hospitals and respected schools such as Baylor College of Medicine is now making it the gold standard of conservative care.