ASSESSMENT OF AN AMBULATORY TRACTION SYSTEM FOR TREATMENT OF CHRONIC LOW BACK PAIN WITH OR WITHOUT RADICULOPATHY.

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INTRODUCTION:

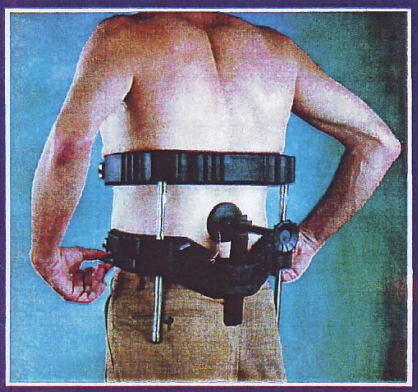
A number of publications in recent years have suggested that a new generation of devices for applying traction to the lumbar spine are beneficial when used as an aid in the treatment of low back pain (with or without radiculopathy) related to intervertebral space pathology (e.g., 1, 2). When appropriately applied, traction reduces pressure on structures in the intervertebral space and corrects malalignments, providing pain relief and facilitating the healing processes (3). Of particular interest to us is an ambulatory traction device because of the relative convenience of use and low expense.

AIM OF INVESTIGATION:

To determine the potential value of an ambulatory traction system (Vertetrac®, Meditrac Medical Equipment LTD) as an aid in the treatment of chronic low back pain with or without radiculopathy

METHODS:

- Patients presenting to a tertiary care pain center with low back pain 6 months or longer duration.
- Disease at one or more lumbar intervertebral spaces.
- The patients were fitted with this traction device which they wore for 20-30 minutes while ambulating for 2 consecutive weeks (10 days). Assessments were made periodically for up to 6 months.
- Range of Motion, Global Response to Treatment, Visual Analog Scale, and Oswestry Low Back Pain Questionnaire assessments were done.



RESULTS:

Of 17 patients enrolled in this study, thirteen completed the 2 weeks of treatment and 10 completed all of the evaluations over 6 months.

Demographics of Patients

	Males	Females
Number	10	7
Age Range	40-73	34-64
Caucasian	9	5
Hispanic	1	2

Status of 7 Patients Not Completing the Study

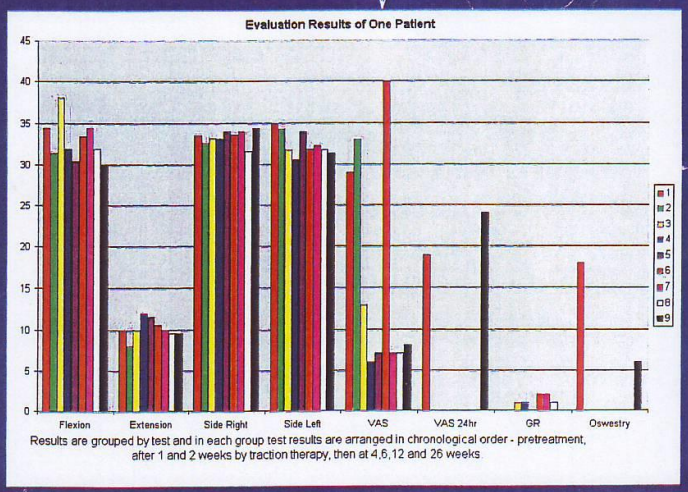
Status	Number
Deceased	1
Personal Problems	1
Too Uncomfortable	2
Passed Out During Therapy	1
In Progress	1
Surgery After 3 Months	1

Global Response to Treatment (GR), a subjective patient report, indicated a positive response to treatment in nine of the 10 patients at 6 months. Some patients requested continued treatment with the traction device. The number of positive responses to other outcome measures was lower than for the GR.

Summary of Treatment Outcome Comparison of Before Treatment vs. 6 Months Later

		ROM							
Patient		*Flexion*	*Extension*	*Side Right*	*Side Left*	*VAS*	*VAS 24 H*	*GR*	*Oswestry*
GH	1	↓	↓	NC	NC	↑	↑	↓	↓
DH	2	↓	↑	NC	NC	↑	↓	↑	↑
LBT	3	↑	↑	NC	↓	↓	↓	↑	NC
LS	4	↓	NC	NC	NC	↓	↑	↑	↓
JK	5	↑	↑	NC	NC	↑	↓	↑	NC
VO	6	↓	↑	NC	NC	↑	↓	↑	↑
JA	7	NC	↑	NC	NC	↓	↓	↑	↓
AL	8	↑	↓	NC	NC	↓	↓	↑	↑
CH	9	↓	↑	↓	↓	NC	↓	↑	NC
PA	10	↓	↓	NC	NC	↓	↑	↑	NC
		3↑	6↓			4↑	3↑	9↑	3↑
		1 NC	1 NC	9-NC	8 NC	1 NC	.		4 NC
		6↓	3↓	1↓	2↓	5↓	7↓	1↓	3↓

ROM – Range of Motion (↑ – improvement)
Side Right – Side Bending Right
Side Left – Side Bending Left
VAS – Visual Analog Score (right now) (↓ – improvement)
VAS 24 hr – Visual Analog Score of worst pain within last 24 hours (↓ – improvement)
GR – Global Response to Treatment (↑ – improvement)
Oswestry Low Back Pain Questionnaire (↓ – improvement)
↑ – increased value/score
↓ – decreased value/score
NC – no change



Results are grouped by test and in each group test results are arranged in chronological order - pretreatment, after 1 and 2 weeks by traction therapy, then at 4,6,12 and 26 weeks

CONCLUSION:

Based on Global Response to Treatment, response to the treatment was positive in this group of patient with pain that generally was refractory to other treatments. Further study is required to determine the optimal protocol for use of the Vertetrac® ambulatory system in the treatment of chronic low back pain in patients referred to tertiary care pain centers.

REFERENCES:

1. Tilaro F. Canadian J Clin Med 1998;2-8.
2. Christenson KD: Chiropractic Products 1993;31-33.
3. Ramos G, Martin W. J Neurosurg 1994 (81):350-353.

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Innovative Dynamic Traction as a Treatment for Low Back Pain and Disc Herniation

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Introduction

Back pain is the second most common medical complaint in the United States, accounting for 100 million lost workdays at a overall cost to the economy of between $30-60 billion annually.

Treatment ranges from bed rest, extending up several weeks, through traction therapy to surgery.

Duration and severity of lumbar pain may be significantly limited by use of innovative ambulatory traction techniques, where traction can be closely adjusted to the needs of the patient.

This poster describes the results of an open clinical study using such a technique.

Methods

212 patients of both sexes ranging in age from 10 years to 75 years were diagnosed at the Center for Spine Disorders, Tel Aviv, Israel, as suffering from disc herniation of the lumbar spine. They were categorized into acute - less than one month from onset of pain - and chronic, where pain had been reported for more than three months.

Patients were assigned a treatment program using the Vertetrac™ ambulatory traction device, adjusting the degree of traction to the patient's individual needs. Treatment consisted of one 30 minute Vertetrac session daily, although for those living considerable distances away from the clinic, this was modified to two 30 minute sessions on alternate days.

Each session was ambulatory in nature, allowing the patient to walk or sit. Bed rest was not necessary using this treatment modality.

The effectiveness of therapy was based upon the patient's subjective feedback regarding pain and discomfort. Effectiveness was categorized as:

Excellent - pain relief<7 days
Good - pain relief 7-35 days
No Improvement - no pain relief

Figure 1

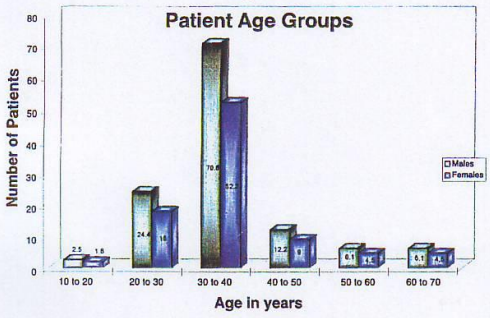
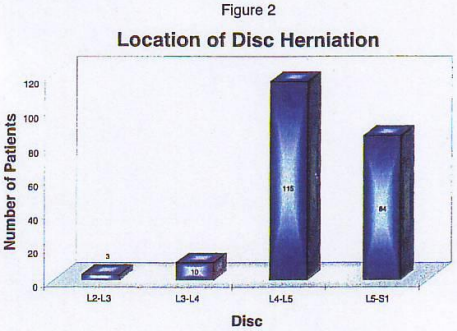
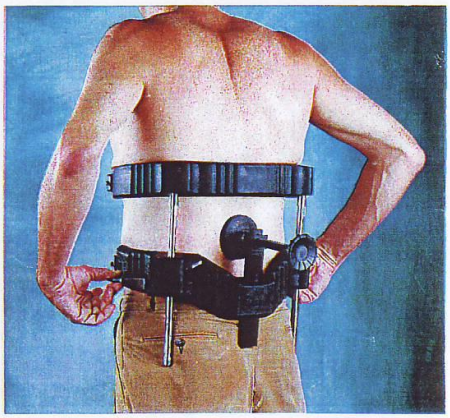


Figure 2





Results

The median number of treatment sessions for this group of patients was 20. Acute patients required between 5 to 20 sessions to stabilize their condition, with longer term chronic patients receiving up to 35 treatment sessions.

Excellent results were achieved in 12.7% of cases - primarily acute - good in 66.9%, with the remaining 20% not reporting significant improvement over the 35 treatment sessions received.

Figure 3

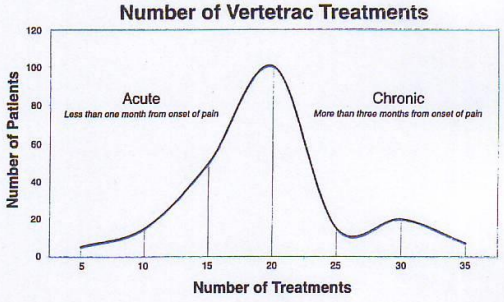
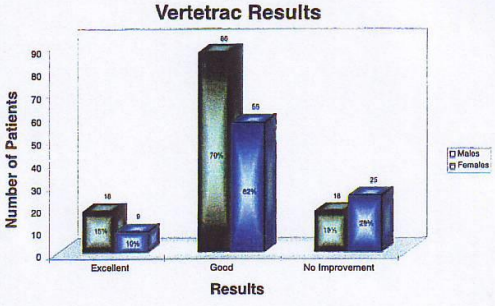


Figure 4



Conclusion

The use of this innovative device (Vertetrac) has obvious benefit in the treatment of pain and discomfort due to lumbar disc herniation using a 30 minute per day ambulatory treatment session.

While such benefit is clearly demonstrable in the acute patient, chronic back pain sufferers may experience a reduction in long standing pain and discomfort.