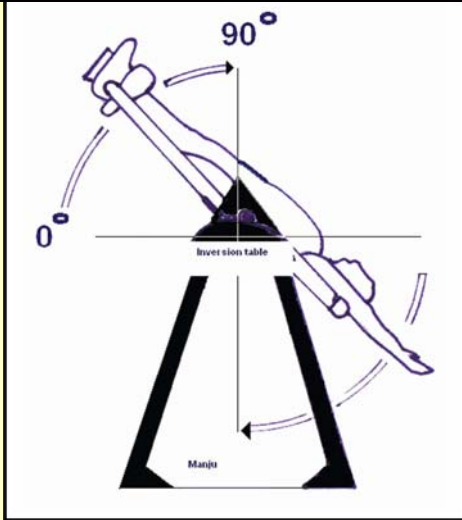


# Inversion therapy in patients with pure single level discogenic disease: a pilot randomised trial

Manjunath Prasad KS, Gregson BA, Hargreaves G, Byrnes T, Mendelow AD.  
Regional Neurosciences Centre, Newcastle General Hospital, Newcastle Upon Tyne, UK.

## INVERSION



## INTRODUCTION

- Economic and social costs of discogenic disease and its treatment are well known.
- Surgery is a well established option in the management flowchart.
- Impact of any treatment to offset the costs of the disease and/or surgery is obvious.
- No strong evidence proving that traction for sciatica is ineffective.
- Previous trials of traction have not reported on avoidance of surgery as an outcome measure.

## AIM

- To study the feasibility of a randomised controlled trial of the impact of the inversion device in a single level discogenic disease on various outcome measures.

## METHODS

**Design:** Prospective randomised control trial

**Study details**

- Period: Feb 2003 – Sept 2006
- Centre: Regional Neurosciences Centre, Newcastle upon Tyne

**Protocol**

➤ **Inclusion**

- Sciatic due to single level disc protrusion
- Within 6 months of first episode
- 18-45 years of age

➤ **Exclusion**

- Neurological deficits
- Sphincter disturbances

➤ **Arms**

- Randomised to inversion and regular physiotherapy or physiotherapy alone whilst waiting for surgery

➤ **Outcome Measures**

- Assessment at 6 weeks post therapy

**Inversion**

- Inversion is a form of extreme traction aided by gravity
- Inversion tables can be mechanical or motorised
- Inversion in our trial was used as intermittent traction along with standard physiotherapy whilst waiting for surgery

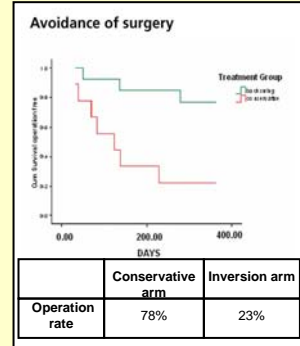
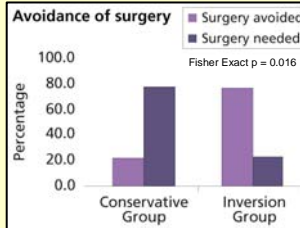
**Outcome Measures**

- Avoidance of surgery
- Roland Morris (RM) questionnaire
- SF-36
- Oswestry disability index
- MRI appearance

## RESULTS

**Patients**

- Number: 22
- M:F: 1
- Age: 25-44 years



• **Roland Morris questionnaire\***

No significant difference between the two groups.

\* 19 patients: No data for one patient and two were operated on before final assessment.

**Short Form 36\***

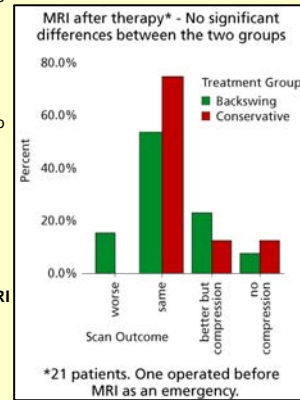
No significant difference between the two groups.

\* 19 patients: No data for one patient and two were operated on before final assessment.

**Oswestry disability index\***

No significant difference between the two groups.

\* Oswestry assessment was done for only 8 patients – 4 in each group



**Scoring system for post randomisation MRI**

- Worsened prolapse/ compression -1
- Unchanged 0
- Decreased prolapse/ compression 1
- Prolapse seen but no compression 2
- Complete disappearance 3

## DISCUSSION

- The most comprehensive systemic review by Clarke et al. (2007) states that there is moderate evidence that in patients with sciatica, traction is no different from other treatment measures.
- However avoidance of surgery, which is extremely important, has not been evaluated previously.
- This trial addressed that issue.
- Avoidance of surgery did not prejudice other outcome measures and vice versa.
- We have also introduced a scoring system for comparing pre and post therapy MRI.

## CONCLUSION

- Inversion therapy decreased the need for an operation in sciatica due to single level disc protrusion to 23% as compared to 78% in the non-inversion group.**
- The economic impact is very significant.**
- A large multicentre prospective randomised control trial is justified.**

## REFS

- Clarke JA, van Tulder MW, Blomberg SEI, de Vet HCW, van der Heijden GJMG, Bronfort G, Bouter LM. Traction for low-back pain with or without sciatica. Cochrane Database of Systemic Reviews 2007 Issue 3.
- Van der Heijden GJMG, Beurskens AJHM, Dirx MJM, Bouter LM, Lindeman E. Efficacy of lumbar traction: A randomised Clinical Trial. Physiotherapy 1995; 81(1): 29-35