

PRF on bilateral L2 DRG – effective treatment method for lumbar discogenic pain?

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Introduction

Chronic low back pain is pain that lasts more than 3 months. Its high prevalence takes a substantial social and economic toll on society. Chronic low back pain is commonly caused by discogenic pain, as well as facet arthrosis and sacroiliitis. IASP guidelines state that diagnostic confirmation of discogenic lumbar pain should be supported by positive provocative discography. On examination, patients often present with low back pain, and MRI shows a black disc with or without a high-intensity zone. L2 DRG diagnostic blocks have emerged as an alternative to discography. This study suggests that, because the afferent sympathetic fibers emerging in the L2 DRG are pathways of pain transmission, PRF to this site can effectively treat discogenic pain by blocking them. We treated 26 patients and audited their pain improvement for over a year. The outcome was significant – over 1 year pain relief, with patients reporting improved quality of life.

Study Objectives

- To confirm the diagnostic effect of blocking the L2 dorsal root ganglion
- To evaluate the efficacy of PRF on L2 dorsal root ganglion for treating chronic discogenic low-back



Figure 1. Degenerated disc causing discogenic pain

Materials and methods

Between 2007 to 2009, we conducted a cross-sectional retrospective study at the Singular Pain Clinic, in Campinas, Brazil. We:

- Selected 26 individuals (7 males and 19 females) who had:
 - low-back pain for at least 6 mths;
 - Black disc; had had targeted L2 DRG diagnostic block;
 - experienced at least 50% pain relief on VNS 20 mins post intervention;
 - complained of pain recurrence
- Applied bilateral PRF at L2 DRG for 180s - 2p/s; 45V.
- Collected data using the Visual Numeric Scale, the Oswestry Disability Index and SF-36 questionnaire
 - VNS and ODI were scored pre-intervention; at 3d/ 1 m/ 3 m/ 6 m/ 1 yr;
 - SF-36 applied 1 yr after intervention
- Analyzed the data using: descriptive and inferential statistics; Chi-square test; Friedman non-parametric test using SPSS-1



Fig. 2. After diagnosis, patients received PRF blocks to bilateral L2 DRG, returning to the office 3 days later, then @ 1, 3, 6 months and 1 year for VNS and ODI evaluations.

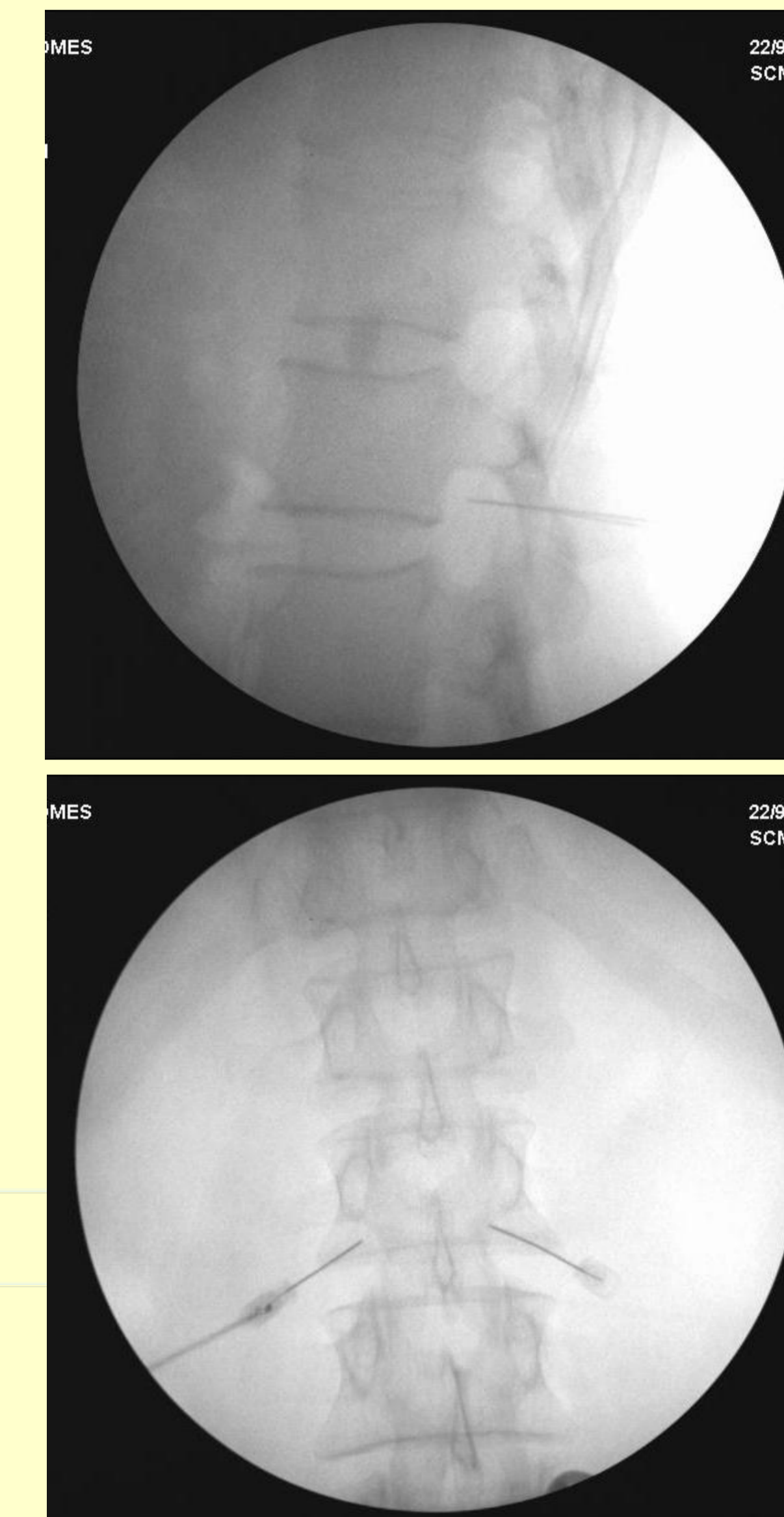
Results

Mean patient age: 47 (SD=15.26)
 Pre-intervention mean pain intensity: 7.4 (SD=2.4)
 Mean pain duration: 131 months (SD=112)
 Gender distribution: 65% females.
 1-month follow-up ($\chi=2.1$, SD2.0)

Statistical analysis

Significant decrease in pain ($p<0.001$) for up to 12 months ($\chi=3.3$, SD=2.5). Oswestry Disability Index score prior to intervention, 52.05 (SD=51.0) and at 1 year post-surgical intervention, 35.72 (SD=33) ($t=3.10$, $p=0.01$). SF-36 scale scores after 1 year were around 50%, ranging from 41% to 61%.

Discussion



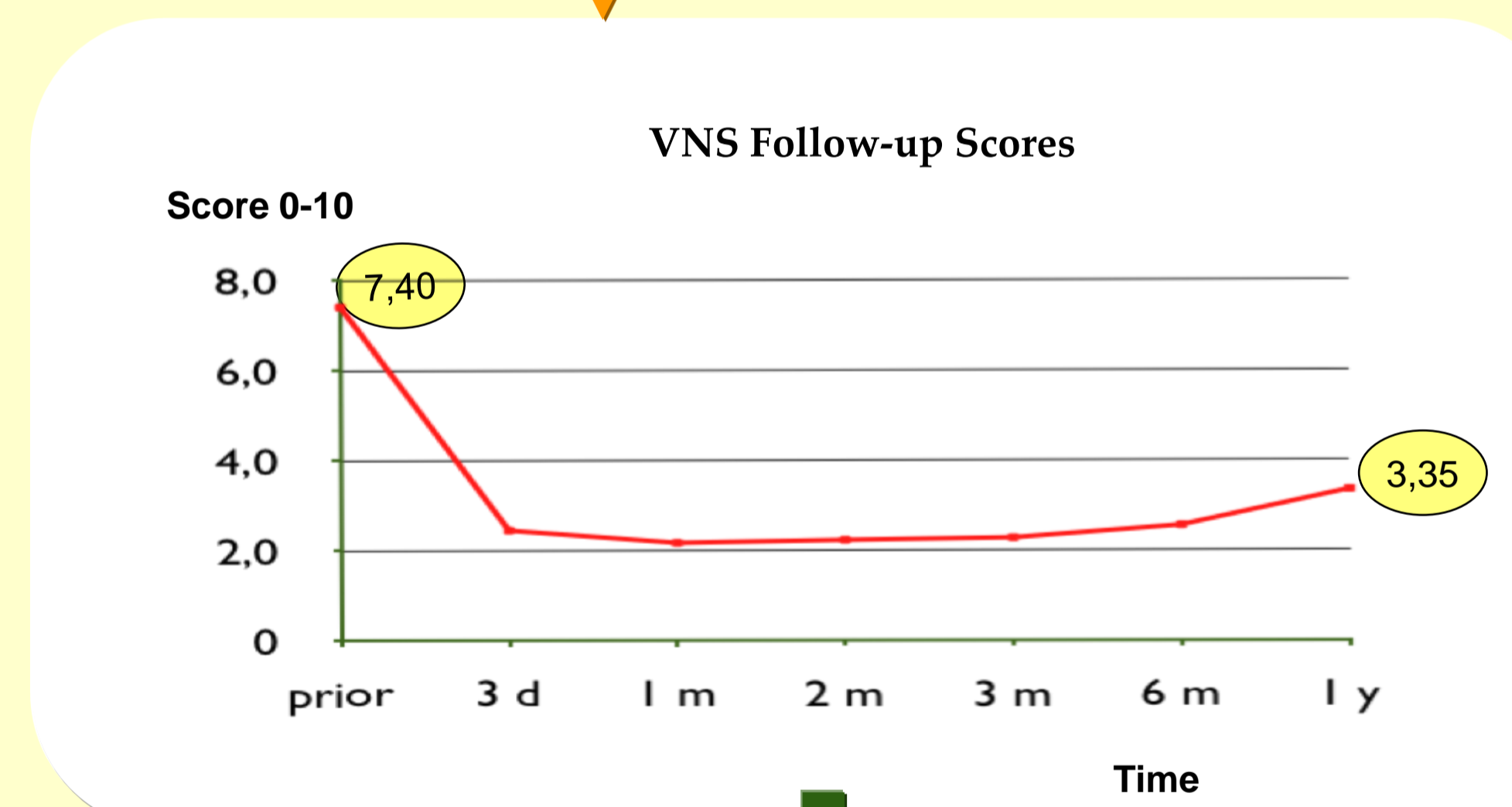
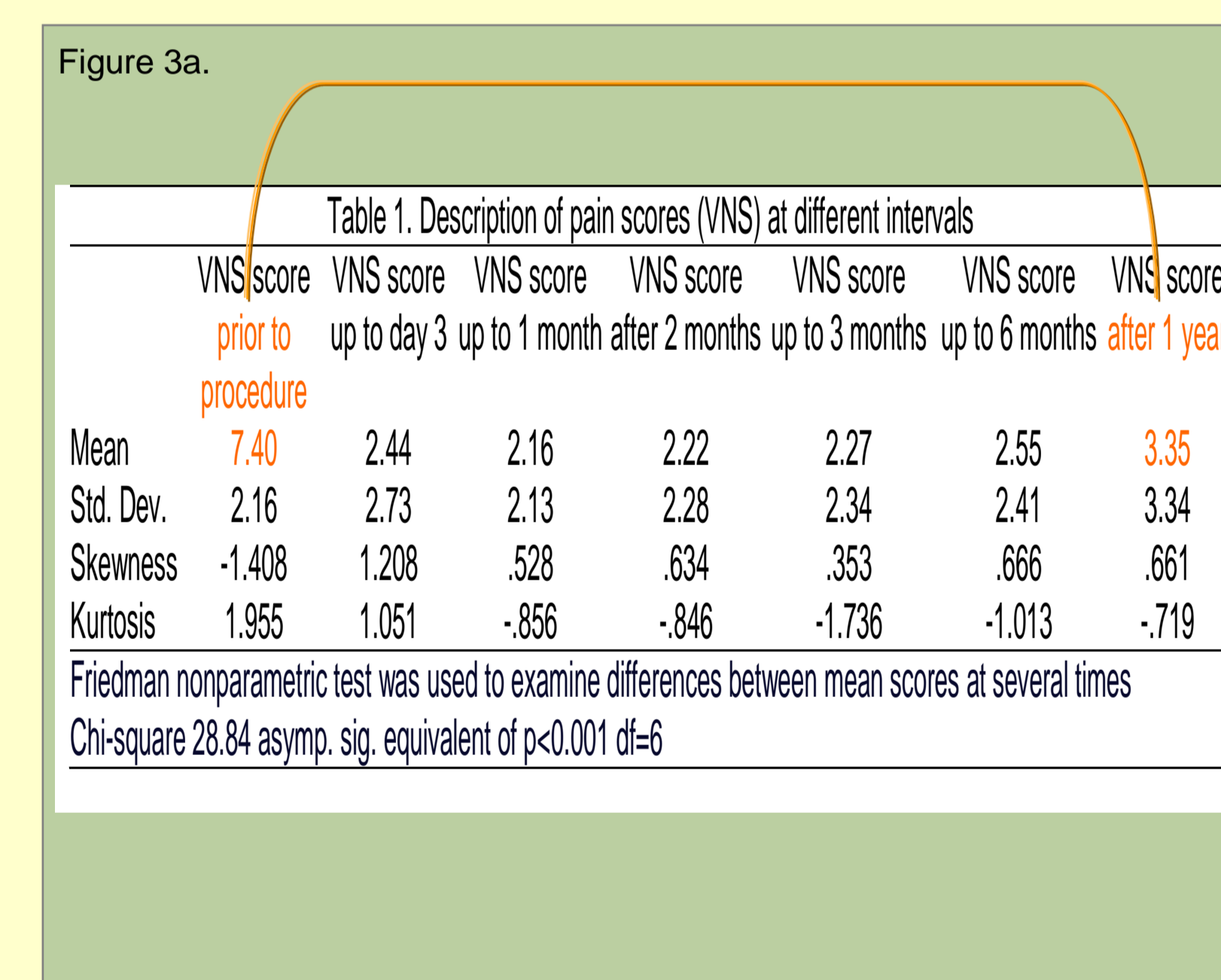
Conclusions

PRF on the L2 dorsal root ganglion:

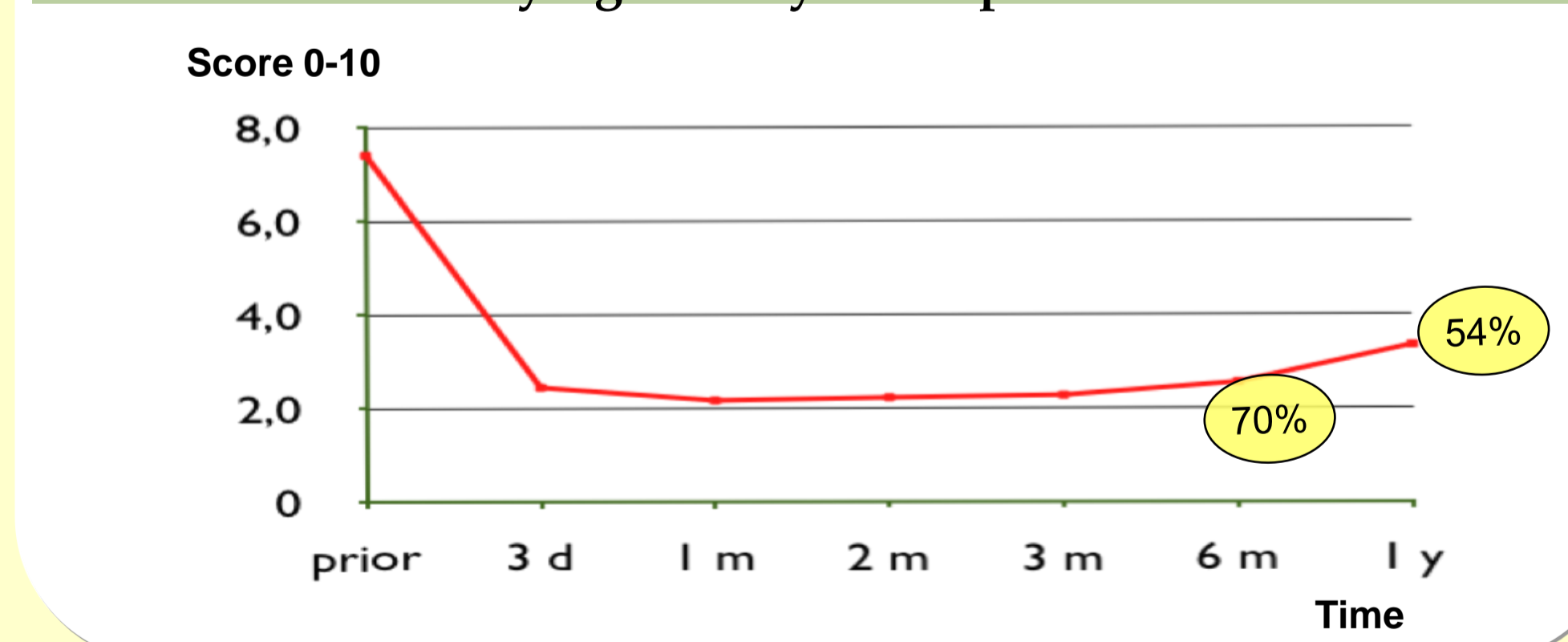
- Effective, non-specific therapeutic method for discogenic low-back pain
- Significant results - 54% pain relief lasting up to 1 yr
- 22% disability reduction – likely a result of pain improvement



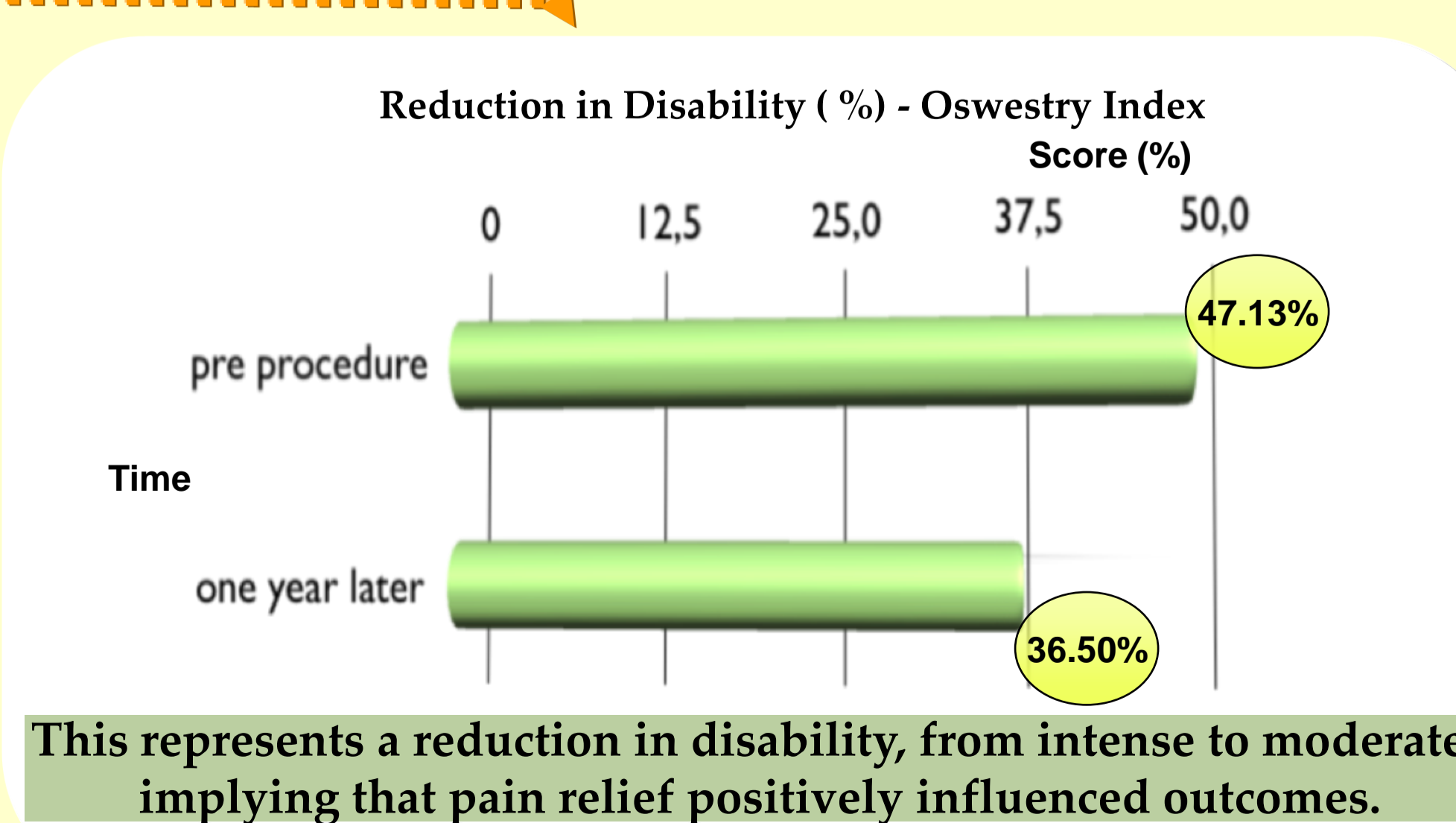
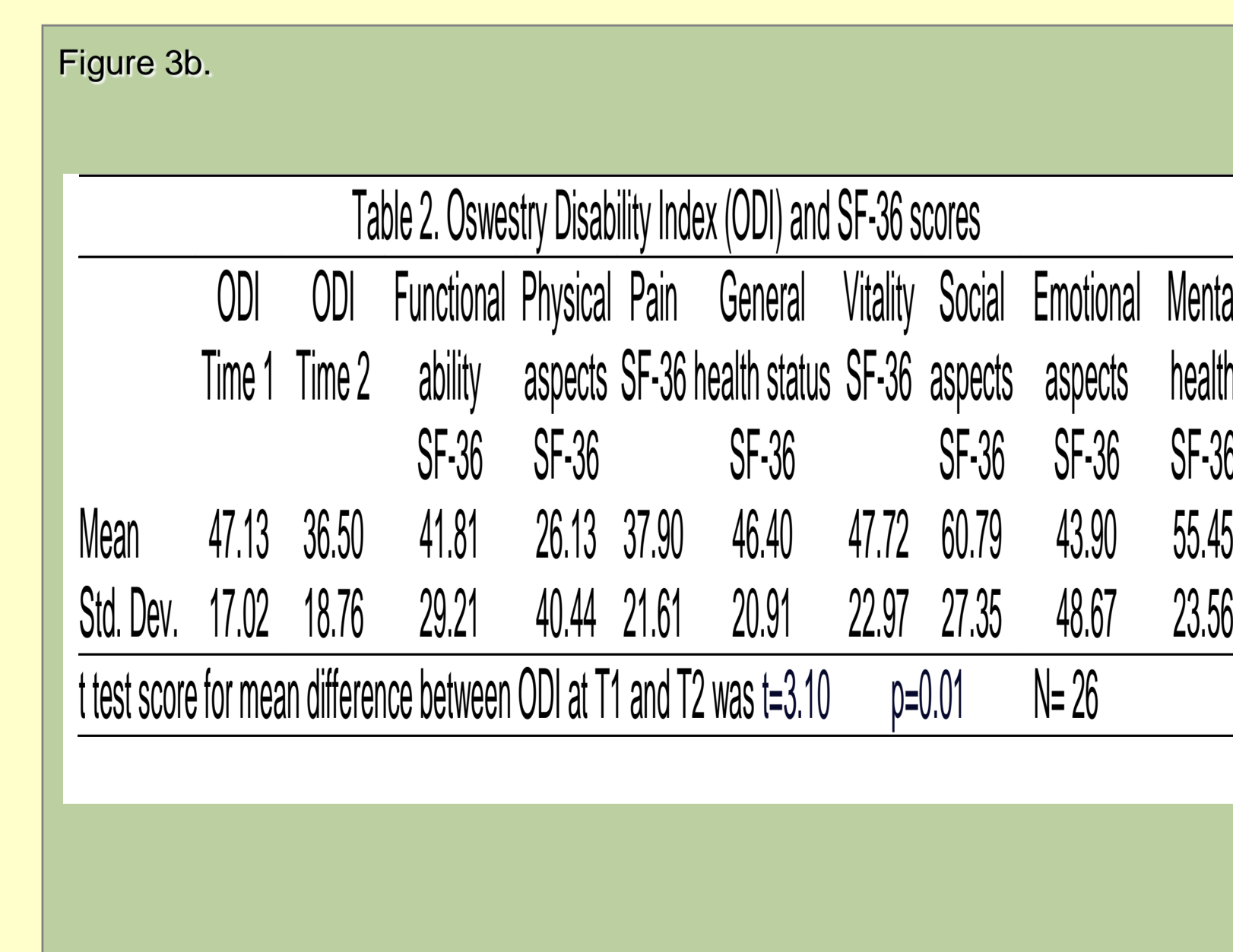
Pain scores before and after PRF (fig. 3a)



70% pain reduction at 6-mth VNS evaluation, and after 1 year 54%, verifying efficacy of the procedure.



Oswestry and SF-36 scores (fig. 3b), disability and quality-of-life evaluations



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Acknowledgments

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For further information

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