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## Prolotherapy injections, saline injections, and exercises for chronic low-back pain: a randomized trial.

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### Abstract

**OBJECTIVES:** To assess the efficacy of a prolotherapy injection and exercise protocol in the treatment of chronic nonspecific low back pain.

**DESIGN:** Randomized controlled trial with two-by-two factorial design, triple-blinded for injection status, and single-blinded for exercise status.

**SETTING:** General practice.

**PARTICIPANTS:** One hundred ten participants with nonspecific low-back pain of average 14 years duration were randomized to have repeated prolotherapy (20% glucose/0.2% lignocaine) or normal saline injections into tender lumbo-pelvic ligaments and randomized to perform either flexion/extension exercises or normal activity over 6 months.

**MAIN OUTCOME MEASURES:** Pain intensity (VAS) and disability scores (Roland-Morris) at 2.5, 4, 6, 12, and 24 months.

**RESULTS:** Follow-up was achieved in 96% at 12 months and 80% at 2 years. Ligament injections, with exercises and with normal activity, resulted in significant and sustained reductions in pain and disability throughout the trial, but no attributable effect was found for prolotherapy injections over saline injections or for exercises over normal activity. At 12 months, the proportions achieving more than 50% reduction in pain from baseline by injection group were glucose-lignocaine: 0.46 versus saline: 0.36. By activity group these proportions were exercise: 0.41 versus normal activity: 0.39. Corresponding proportions for >50% reduction in disability were glucose-lignocaine: 0.42 versus saline 0.36 and exercise: 0.36 versus normal activity: 0.38. There were no between group differences in any of the above measures.

**CONCLUSIONS:** In chronic nonspecific low-back pain, significant and sustained reductions in pain and disability occur with ligament injections, irrespective of the solution injected or the concurrent use of exercises.

### Comment in

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