



## Grant Information Summary:

# Clinical Presentation and Management of Children and Adolescents with Low Back Pain

### Practical Significance Statement

**Low back pain (LBP) is increasingly recognized as a problem affecting many children and adolescents, particularly those who are physically active and participate in sports. Although the problem is being acknowledged, very little is known about its clinical presentation or treatment. More information is needed to inform Athletic Trainers and other health care providers on the optimal management of children and adolescents with LBP.**

### Study Background

The prevalence of LBP among individual aged 12-17 has been estimated in studies to be as high as 20-25%. Although many adolescents recover quickly from an episode of LBP, it appears that some will go on to develop chronic or recurrent problems that persist into adulthood. A tremendous amount of literature exists regarding the management of adults with LBP, however very little is known about children and adolescents with the condition. The reliability of many measures used in adults has not been assessed in

adolescents, and almost no information exists on the outcomes of treatment provided by athletic trainers or other health care professionals. The purpose of this study was to systematically examine the clinical presentation, rehabilitation decision-making and clinical outcomes of children and adolescents with LBP.

### Objective

Describe the clinical characteristics of children and adolescents with low back pain and compare these characteristics to adults with low back pain and examine the clinical outcomes of rehabilitation for children and adolescents with low back pain. We also sought to examine the validity of the Oswestry disability questionnaire for children and adolescents with low back pain by comparing the outcomes obtained with this measure to those from adults with low back pain.

### Design And Setting

Data for this study were collected at outpatient physical therapy clinics of Intermountain Healthcare in Salt Lake City, Utah region. These clinics have an ongoing clinical outcomes database that tracks all patients treated within these facilities.

### Subjects

Individuals aged 12-17 with a chief complaint of low back pain attending an outpatient physical therapy clinic of Intermountain Healthcare were included.

### Measurements

A physical examination was conducted at baseline. The Oswestry Low Back Pain Disability Questionnaire and Numeric Pain Rating were collected at baseline and the conclusion of treatment to document clinical outcomes. We also examined the data stored within the clinical outcomes database on individuals aged 12-17 with low back pain, comparing the outcomes to those obtained from adults with low back pain.

### Results

Over a 2-year data collection period, children and adolescents made up 4.1% of total number of patients treated for low back pain. At baseline, adolescents had a mean Oswestry score of 31.0 (sd=13.1), which was lower than the mean score for adults (mean = 40.6, sd=16.0) ( $P<0.001$ ). The mean pain rating at baseline for the adolescents was 5.1 (sd = 2.2) which was similar to adult values (mean = 5.6, sd=2.4). Approximately 60% of the adolescents were participating

in organized sports. Adolescents were more likely to be classified in the stabilization category and less likely to be classified in the specific exercise category compared to adults ( $P<0.05$ ). The likelihood of manipulation classification was similar to adults. Mean change scores for the Oswestry were similar for adolescents (mean =12.5, sd = 13.2) and adults (mean =13.3, sd =16.0); however, when expressed as a percent change adjusted for baseline scores adolescents experienced greater change than adults (42.3% vs. 31.3%,  $P=0.04$ ). The mean change in pain was also similar for adolescents (mean =1.9, sd =2.2) and adults (mean =2.0, sd =2.4).

### Conclusions

Children and adolescents with low back pain are different than adults with the condition. Differences were noted in the clinical presentation and the outcomes obtained with treatment. The outcome measures used in this study appeared to be useful for determining outcomes in this age group. Although clinical improvements were documented for the children and adolescents with low back pain in this study, further research is needed to identify the most effective management strategies for these individuals.

### Principal Investigator:



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PhD, ATC, PT**

Julie M. Fritz, PhD, ATC, PT is currently an Associate Professor in the Division of Physical Therapy at the University of Utah, and Clinical Outcomes Research Scientist with Intermountain Health Care in Salt Lake City, Utah. She received her Bachelor's Degree from Hope College in Holland Michigan in Biology while also completing an Internship program in Athletic Training. She received her Master of Science in Physical Therapy from the University of Indianapolis, and her PhD in Rehabilitation Science at the University of Pittsburgh. She previously served on the faculty in the Physical Therapy Department at the University of Pittsburgh prior to moving to Salt Lake City. Her research interests have focused on examining the outcomes of treatments for individuals with low back pain and matching the most effective treatments to various sub-groups of patients with low back pain.

### Publication & Presentation List

Fritz, JM, Clifford SN. Clinical Characteristics, Outcomes, and Prognostic Factors for Adolescents with Low Back Pain Undergoing Rehabilitation. 2008. National Athletic Trainers' Association Annual Meeting & Clinical Symposium St. Louis, MO.

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