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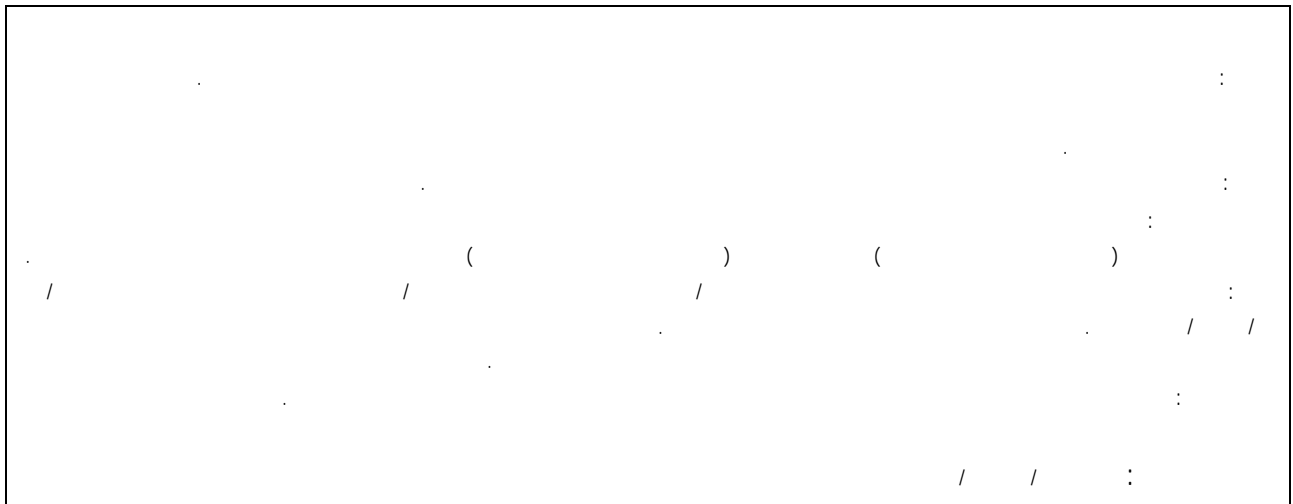
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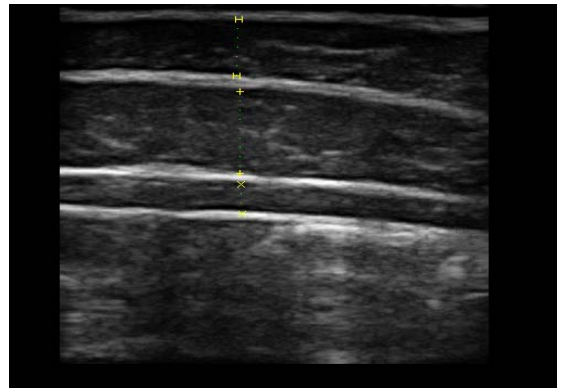
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1. Fritz JM, George SZ, Delitto A. The Role of Fear-Avoidance Beliefs in Acute Low Back Pain: Relationships With Current and Future Disability and Work Status. *Pain* 2001; 94:7-15.

2. Swinkels-Meewisse EJCM, Swinkels RAHM, Verbeek ALM, et al. Psychometric Properties of the Tampa Scale for Kinesiophobia and the Fear-Avoidance Beliefs Questionnaire in Acute Low Back Pain. *Manual Therapy* 2003; 8(1): 29-36.

3. Hides JA, Richardson CA, Jull GA. Multifidus Muscle Recovery is Not Automatic Following Resolution of Acute First Episode Low Back Pain. *Spine* 1996; 21: 2763-2769.

4. Stokes M, Rankin G, Newham DJ, Ultrasound Imaging of Lumbar Multifidus Muscle: Normal Reference Ranges for Measurements and Practical Guidance on the Technique. *Manual Therapy* 2005; 10(2): 116-26.

5. Rankin G, Stokes M, Newham DJ. Size and Shape of the Posterior Neck Muscles Measured by Ultrasound Imaging: Normal Values in Males and Females of Diffevent Ages. *Manual Therapy* 2005; 10(2): 108-15.

6. Norasteh A, Ebrahimi E, Salavati M, Rafiei J, Abbasnejad E. Reliability of B-mode Ultrasonography for Abdominal Muscles in Asymptomatic and Patients with Acute Low Back Pain. *Journal of Body Work and Movement Therapy*. Issuel, January 2007; 11: 17-20.

7. Misuri G, Colagrande S, Gorini M, et al. In Vivo Ultrasound Assessment of Respiratory Function of Abdominal Muscles in Normal Subjects. *Eur Respir J* 1997; 10: 2881-2887.

8. Mc Meeken JM, Beith ID, Newham DJ, Milligan P, Critchley DJ. The Relationship Between EMG and

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Changes in Thickness of Transversus Abdominis. *Clinical Biomechanics* 2004; 19(4): 337-42.

9. Critchley D. Instructing Pelvic Floor Contraction Facilitates Transversus Abdominis Thickness Increase During Low-Abdominal Hollowing. *Physiotherapy Research International* 2002; 7:65-75.

10. Hodges P. Lumbopelvic Stability: A Functional Model of the Biomechanics and Motor Control. In: Richardson C, Hodges P, Hides J. *Therapeutic Exercise for Lumbopelvic Stabilization*. Philadelphia; Churchill Livingstone, 2004.

11. Richardson C, Hides J. Stiffness of the Lumbopelvic Region for Load Transfer. In: Richardson C, et al. *Therapeutic Exercise for Lumbopelvic Stabilization*. London; Churchill livingstone, 2004.

12. Kermode F. Benefits of Utilizing-Real-Time Ultrasound Imaging in the Rehabilitation of the

Lumbar Spine Stabilizing Muscles Following Low Back Injury in the Elite Athlete-a Single Case Study. *Physical Therapy in Sport* 2004; 5: 13-16.

13. Ito T, Shirado O, Suzuki H, Takahashi M, Kaneda K, Strax TE. Lumbar Trunk Muscle Endurance Testing: an Inexpensive Alternative to a Machine for Evaluation. *Arch Phys Med Rehabil* 1996; 77:75-79.

14. Critchley D. Instructing Pelvic Floor Contraction Facilitates Transversus Abdominis Thickness Increase During Low-Abdominal Hollowing. *Physiotherapy Research International* 2002; 7:65-75.

15. Aniscough-Potts AM, Morrissey MC, Critchley D. The Response of Transverse Abdominis and Internal Oblique Muscles to Different Postures. *Manual Therapy* 2006; 11(1):54-60.

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## Evaluation of Differentiate Variables in Patients with First-episode

### Acute Low Back Pain of Healthy Subjects

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#### Abstract

**Introduction:** Many researchers believed that in patients with low back pain, secondary prevention because of its possibility is more important than primary prevention. The most cost be used for patients who will have disability, finding disability preventing variables predictor can be very important.

**Objective:** Comparison of patients with first-episode acute low back pain and healthy subjects in order to finding differentiate variables.

**Materials and Methods:** In this experimental case-control study were selected two groups including patients with first episode low back patients (n=32) and normal subjects (n=51). Studied variables were thickness of rectus abdominis muscles, obliques externous muscles, obliques internous muscles, transversus abdominis muscles (measured by ultrasonography), Lumbo-pelvic stability (measured by pressure biofeedback) and muscle endurance.

**Results:** Mean flexor endurance was (143secound), mean extensor endurance was(240.58 secound) and lumbopelvic stability was(7.30) in normal group. These variables were 47.61, 62.71 and 4.81 in patient group. These three variable had significant statistically differences. The mean of Thickness of transverses abdominis in patient group is less than normal group and rectus abdominis thickness in patient group is more than normal group but these differences were not significant.

**Conclusions:** Endurance, lumbo-pelvic stability and muscle thickness may be change not only after chronic low back pain but also after first episode acute low back pain.

**Key words:** Abdominal Muscle/ Back Pain/ Ultra Sonography