

NEWS AND NOTES

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Advice to Help Prevent Low Back Pain

Low Back Pain (LBP) is a common life experience. It will affect about 80% of all adults at some point in life. About 40% of all adults will experience LBP in any one year, and 15-20% of adults are experiencing LBP at any given time (McKenzie R., 2003, p. 8). LBP is thought to be self limiting with "80-90% of attacks of LBP said to recover in about 6 weeks regardless of treatment" (McKenzie R., 2003, p. 9). However LBP is frequently recurrent, with about 60% of LBP cases suffering recurrent episodes. 30% of those with recurrent episodic LBP will progress to the development of sciatica, which also has a favorable outcome, but tends to take longer to resolve, and interferes with function to a greater extent than LBP. LBP is not always curable, and for some is a lifelong problem (McKenzie R., 2003, pp. 10-11). LBP is the most common musculo-skeletal cause of Disability experienced by adults (McKenzie R., 2003, p. 14).

The cost of LBP is enormous. In the US, medical care cost for LBP has been estimated between 8-18 billion dollars annually. Total societal cost for LBP has

been estimated between 75-100 billion dollars annually, and there is no evidence that these costs are abating. The majority of cost is spent on the chronic back pain population. Medicine and society should take measures to prevent the development of chronic LBP. (McKenzie R., 2003, pp. 16-18).

The majority of individuals we encounter in the clinic are unable to identify a specific incident that brought on their episode of back pain. This leads us to believe that our life styles and habits play a major role in the development of these disorders.

The 2 most common predispos-

ing factors in our lifestyles that most often cause LBP are the frequency of flexion (bending) in our work and play habits, and poor habitual sitting posture.

The Medical profession often utilizes evidenced based guidelines to improve the quality and outcome of health care for commonly encountered conditions such as back pain. These guidelines are developed by a group of experts in the field. The group will make recommendations based on systematic reviews of research and existing national guidelines. One of the few guidelines on prevention of back pain was done by a group of experts in



Fig. 9.3. Standing postures.

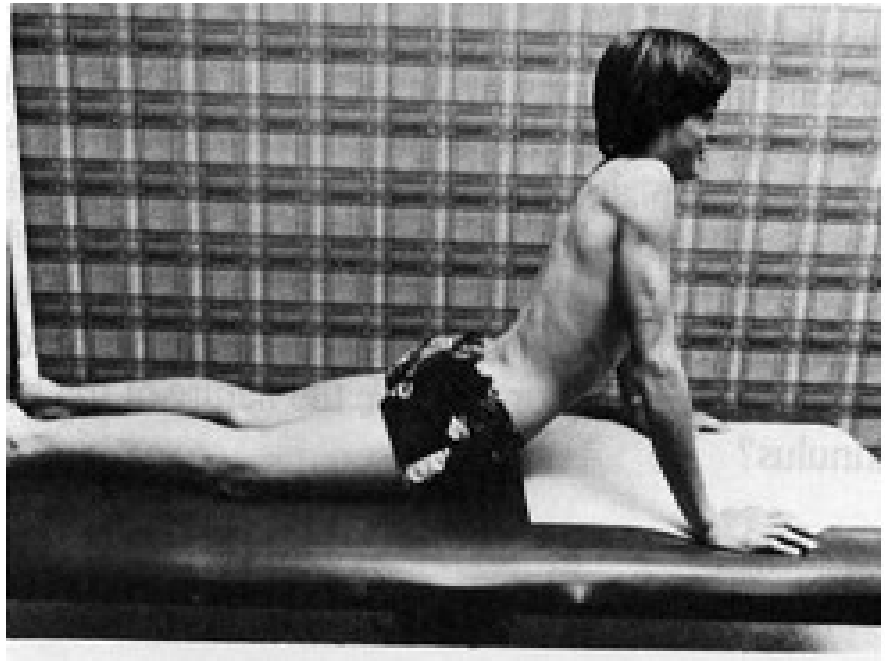


Fig. 7.1. Relaxed sitting posture.

Europe in 2004 (www.backpaineurope.org). The main recommendations for prevention of back pain were the use of regular physical exercise and education about back problems. The European guidelines also mentioned several interventions that are not recommended for the prevention of back problems, they are as follows:

- Back Belts/Braces
- Specific brands of Chairs and Mattresses
- Shoe Insoles
- Maintenance Manipulative Treatment (Adjustments)

The guidelines do not recommend any specific exercise for the prevention of back pain, but 2 well designed studies have shown promise. The first study was a Randomized controlled trial of 249 military conscripts who were randomized to a group who performed daily press up exercises (prone extension) following a 40 minute lesson on back problems. The control group went through their military service as usual. The press up group reported less back pain during their military service, and had fewer physician visits for back related problems during their military service (Larsen et al, 2002).



The second study was a randomized clinical trial of 39 patients who sought medical attention for the first time ever episode of back pain. The control group was advised about back pain, encouraged to remain as active as possible, and was prescribed medication to cope with the pain. The study group received the same advice and medication but were referred to Physical Therapy (PT) 2 times weekly for 4 weeks and received a strengthening program that targeted the stabilizing muscles of the back in particular the multifidus and transverse abdominus muscle groups. The patients were encouraged to continue the exercise program upon discharge from

PT. The exercise group had significantly fewer recurrent episodes of back pain compared to the control group (30% compared to 84%) at 1 year and 3 year follow up (Hides et al, 2001).

The position of the back while sitting has demonstrated to have a significant effect on pain reported. When sitting with a kyphotic or rounded back posture back pain patients have demonstrated higher levels of pain and poorer sitting tolerance, than back patients who sit in a posture that maintains the lordotic curve (inward curve) in the lower back (Williams et al, 1991). It is likely that those who do not have back pain may be less likely to develop the symptoms if they maintain the lordotic sitting posture as well.

Hoogendorn et al demonstrated that greater exposure to flexed positions and rotated positions during work tasks places workers at moderate risk of developing back pain (Hoogendorn et



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al, 2000). It is safe to say that decreasing the frequency of flexion and rotation of the low back by lifting using a squat technique, lunge technique or any other technique that allows the maintenance of the lumbar lordosis, and limits lumbar flexion and rotation will lessen the risk of developing back pain.

In summary, LBP is a common part of life that can be recurrent, progressive and cause disability. The cost of LBP to society is substantial. Regular exercise to include daily press up exercises, and core stabilization exercises 2-3 times weekly are helpful at preventing LBP episodes and/or recurrent LBP episodes. Decreasing the frequency of activities that flex the spine by sitting correctly and lifting properly, can lessen the risk of developing LBP.

References:

- General Research Committee (2004).** *European guidelines for prevention in low back pain.* Retrieved April 24, 2009, from <http://www.backpaineurope.org>
- Hides J., J. G. (2001).** Long term effect of specific stabilization exercises for first episode low back pain. *Spine*, 11, 43-48.
- Hoogendorn WE, B. P. (2000).** Flexion and rotation of the trunk and lifting at work are risk factors for low back pain. Results of a prospective cohort study. *Spine*, 25, 3087-3092.
- Larsen K., W. F.-Y. (2002).** Can passive prone extensions of the back prevent back problems? A randomized controlled intervention trial of 314 military conscripts. *Spine*, 27, 2747-2752.
- McKenzie R., M. S. (2003).** *The lumbar spine mechanical diagnosis & therapy volume one.* Waikanae, New Zealand: Spinal Publications New Zealand Ltd.
- Williams M., Hawley J., McKenzie R., Van Wijmen P.(1991)** A comparison of two sitting postures on back and referred pain. *Spine*, 16:10, 1185-1191.



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