

**BACK PAIN AND OCCUPATIONAL MEDICINE**  
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Updated 2002 David Borenstein, MD & Andra Showalter, MD)

General:

1. Hadler NM. Occupational Musculoskeletal Disorders. 2nd Edition. Philadelphia, Lippincott Williams & Wilkins, 1999

Extensively referenced discussions of the diagnosis and management of the regional musculoskeletal disorders including ramifications for the patient beyond personal discomfort and tissue damage that relate to work capacity.

2. The Adult Spine, Second Edition. Edited by JW Frymoyer, TB Ducker, NM Hadler, et al. New York, Raven Press, 1996.

The standard text. A wealth of information in its thousands of pages.

3. Bigos S, Bowyer O, Braen G, et al. Acute low back problems in adults. Clinical practice guideline No. 14. AHCPR Publication No. 95-0642. Rockville, MD; Agency for HealthCare Policy and Research, Public Health Service, US Department of Health and Human Services, December 1994

The extensively referenced work product of a committee charged with constructing management guidelines for acute back pain based on a systematic review of the available literature.

4. Disability Evaluation. Edited by SL Demeter, GBJ Andersson, GM Smith. St. Louis, Mosby, 1996

If you want a detailed exposition on the process of disability determination in America today, this tome is the reference. If you want an analysis of the rationale underlying this process, see below.

References relating to particular aspects of the management of the medical illness

5. Gibson JNA, Grant IC, Waddell G. The Cochrane Review of surgery for lumbar disc prolapse and degenerative lumbar spondylosis. Spine 24:1820-1832,1999

These are among the most common surgical procedures in America. Both lack compelling scientific underpinning. A meta-analysis of the 26 randomized controlled trials, all with major flaws, for discectomy allows one to argue for an indication in a subset that has failed conservative management, if one is so inclined. Analysis of the 14 trials that speak to an indication for surgery for lumbar spondylosis doesn't offer even that degree of encouragement.

6. Shekelle PG, Coulter I, Hurwitz EL, et al. Congruence between decisions to initiate chiropractic spinal manipulation for low back pain and appropriateness criteria in North America. Ann Intern Med 129:9-17, 1998

Structured reviews of an extensive experimental literature draws the conclusion that there may be some small benefit of spinal manipulation in one subset of patients. This paper examines the fashion in which this inference is congruent with care in North America.

7. Von Korff M, Barlow W, Cherkov D, Deyo RA. Effects of practice style in managing back pain. *Ann Intern Med* 121:187-195, 1994

It turns out that the context for care, not the particular modalities, are critical determinants of outcome.

8. Thomas E, Silman AJ, Croft PR, et al. Predicting who develops chronic low back pain in primary care: a prospective study. *BMJ* 318:1662-1667, 1999.

In recent years, it has become clear from the work of many investigators that the chief complaint "my back hurts" should be probed as surrogate for "my back hurts but I'm here because other aspects of my life are interfering with my ability to cope." This paper is one of several from the prospective South Manchester Back study that supports this deduction in a particularly elegant fashion.

9. Jensen MC, Brant-Zawadzki MN, Obuchowski N, et al. Magnetic resonance imaging of the lumbar spine in people without back pain. *N Engl J Med* 331:69-73, 1994

For regional back pain (and neck pain), the specificity of almost any finding on an MR image is such that diagnostic utility is rendered marginal at best.

10. Carey TS, Garrett J, Jackman A, et al. The outcomes and costs of care for acute low back pain among patients seen by primary care practitioners, chiropractors, and orthopedic surgeons. *N Engl J Med* 333:913-917, 1995

Although outcome does not vary as a function of provider, cost does.

References relating to particular aspects of the management of the illness of work incapacity

11. Hadler NM. Workers' Compensation and chronic regional musculoskeletal pain. *Brit J Rheum* 36:815-818, 1998

Disability determination in the west derives from Prussian statutes a century ago. However, transnational differences in evolution represent experiments in the fashion in legal constructs alter clinical judgement.

12. Hadler NM. Workers with disabling back pain. *N Engl J Med* 337:1923-1925, 1997

The invention of the "injury" construct for regional back pain in the workplace some 50 years ago has led to a dramatic change in perception and outcome for the "injured" worker. The "injury" construct is no longer tenable on scientific grounds; its perpetuation perpetuates much unnecessary morbidity including that which derives from iatrogenicity.

13. Hadler NM. A keyboard for "Daubert." J Occup Environ Med 38:469-476, 1996

The 1993 Supreme Court "Daubert" decision has dramatically altered the fashion in which science will play in the legal arena. This paper is such an exercise testing the inference the repetitive motion causes carpal tunnel syndrome. The inference is not tenable.

14. Hadler NM. Fibromyalgia: La maladie est morte. Vive le malade! J Rheum 24: 1250-1251, 1998

Arguments are developed that fibromyalgia is an example of iatrogenic somatizing process, which can be further exacerbated in the process of disability determination.

15. Hadler NM. Disability determination and the social conscience. Arthritis Care Res 9:163-169, 1996

Re-examination of the fashion in which disability determination in America serves the patient with rheumatoid arthritis.

16. Hadler NM. Coping with arm pain in the workplace. Clin Orthop Rel Res 331: 57-62, 1998

As was the case for back pain, it is clear that the experience of arm pain is more likely to be rendered intolerable by aspects of the psychosocial context in which it is suffered than aspects of the physical demands placed on the limb.

16. Borenstein, David G: Epidemiology, Etiology, Diagnostic Evaluation, and Treatment of Low Back Pain. Curr Opin Rheum, 13:128-134, 2001.

Update on Low Back Pain.

17. Andersson G. B.J., Lucente T., Davis A. M., Kappler R. E., Lipton J. A., Leurgans S: A Comparison of Osteopathic Spinal Manipulation with Standard Care for Patients with Low Back Pain. N Engl J Med, 341:1426-1431, 1999.

Randomized controlled trial showing that osteopathic spinal manipulation and standard medical care in patients with low back pain have similar results.

18. Salminen JJ, Erkintalo MO, Pentti J, et al: Recurrent Low Back Pain and Early Disc Degeneration in the Young. *Spine* 24: 1316-1321, 1999.

Adolescents with disk degeneration (by MRI) were at increased risk for long-term recurrent LBP. This result might be taken to suggest that disc disease really does lie behind much discogenic LBP, even though the majority of degenerative discs are painless.

19. Carey TS, and the North Carolina Back Pain Project: Recurrence and Care Seeking After Acute Back Pain: Results of a Long-term Follow-up Study. *Med Care* 37: 157-164, 1999.

Study of patients with acute LBP who were treated by chiropractors, primary care physicians, orthopedic surgeons or PCPs in a HMO. Pt who saw chiropractors were more likely to see them again for recurrent LBP and were overall more satisfied with their care.

20. Helewa A, Goldsmith CH, Lee P et al: Does Strengthening the Abdominal Muscles Prevent Low Back Pain: a Randomized Controlled Trial. *J Rheum* 26: 1808-1815, 1999.

Randomized controlled trial showing that strengthening abdominal muscles failed to prevent LBP.

21. Deyo R, Weinstein J: Low Back Pain. *New England Journal of Medicine* 344:5, 363-70.

A review article on low back pain causes, epidemiology, diagnosis, natural history, therapy and prevention.