Evidence-Informed Approach for Return to Work

Navigating Workers Compensation Issues in a Multidisciplinary Spine Practice

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  - Harvard University
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- **Board Certifications:**
  - PM&R
  - Sports Medicine

Overview

- **Common Ground: Forms & Definitions**
- **Review of Evidence on Work Activity Restrictions**
  - **With a Focus on Spine-Related Issues**
- **Strategies to Facilitate Return to Pre-Injury Function**
- **Case-Based Discussion**

No Financial Disclosures Related to this Topic

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“Tension is the cornerstone of any good story.”

- Eric Nylund

"Tension is the cornerstone of any good story."

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"All the evidence is that remaining at work or returning to work as early as possible is the best possible treatment for pain.

"It does not aggravate the problem or cause re-injury but actually leads to faster recovery and less trouble in the long term."[1]

1 Waddell. The Back Pain Revolution. Pgs 345-347.

2 Am J Public Health. 1998 Nov;88(11):1630-7.

"Tension is the cornerstone of any good story."

- Eric Nylund

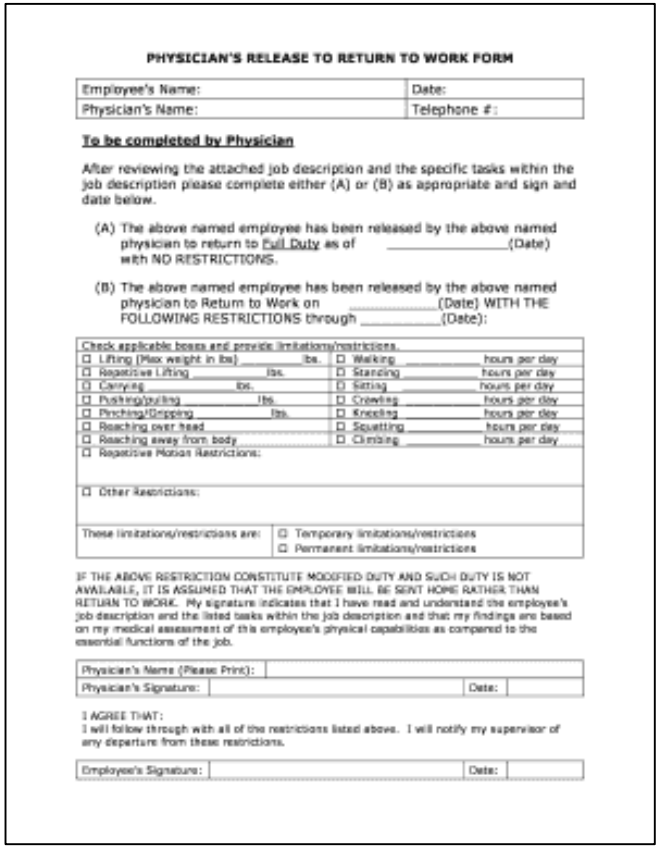
Receipt of disability compensation has a strong negative effect on RTW.[2]

1 Waddell. The Back Pain Revolution. Pgs 345-347.

2 Am J Public Health. 1998 Nov;88(11):1630-7.

“Strike Fear or Get Struck.”

- Nike



PHYSICIAN'S RELEASE TO RETURN TO WORK FORM

Employee's Name:	Date:
Physician's Name:	Telephone #:

To be completed by Physician

After reviewing the attached job description and the specific tasks within the job description please complete either (A) or (B) as appropriate and sign and date below.

(A) The above named employee has been released by the above named physician to return to Full Duty as of _____(Date) with NO RESTRICTIONS.

(B) The above named employee has been released by the above named physician to Return to Work on _____(Date) WITH THE FOLLOWING RESTRICTIONS through _____(Date):

Check applicable boxes and provide limitations/restrictions.	
☐ Lifting (Max weight in lbs) _____ lbs.	☐ Walking _____ hours per day
☐ Repetitive Lifting _____ lbs.	☐ Standing _____ hours per day
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☐ Repetitive Motion Restrictions:	
☐ Other Restrictions:	
These limitations/restrictions are:	☐ Temporary limitations/restrictions ☐ Permanent limitations/restrictions

IF THE ABOVE RESTRICTION CONSTITUTE MODIFIED DUTY AND SUCH DUTY IS NOT AVAILABLE, IT IS ASSUMED THAT THE EMPLOYEE WILL BE SENT HOME RATHER THAN RETURN TO WORK. My signature indicates that I have read and understand the employee's job description and the listed tasks within the job description and that my findings are based on my medical assessment of this employee's physical capabilities as compared to the essential functions of the job.

Physician's Name (Please Print):			
Physician's Signature:		Date:	

I AGREE THAT:
I will follow through with all of the restrictions listed above. I will notify my supervisor of any departure from these restrictions.

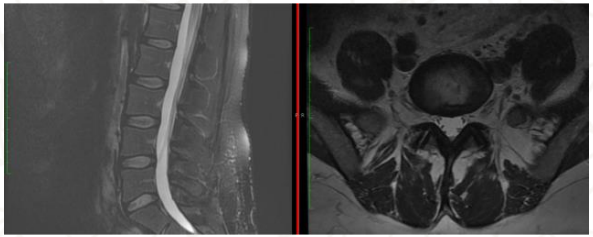
Employee's Signature:		Date:	

Case Example:

36 year-old female with low back and leg pain as well as sense of weakness

History:

- Symptoms began after bending and feeling a "pop" in the back about 3 months ago
- Pain localized to right lower lumbar region with referral to the posterior aspect of RLE
- Associated sense of weakness in RLE and intermittent numbness in toes I-III
- Interventions:
  - PT and Chiropractic care: unable to tolerate
  - ESI with no relief

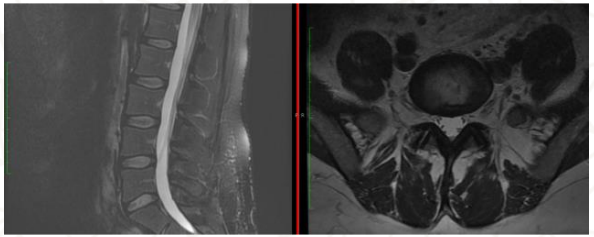


Case Example:

36 year-old female with low back and leg pain as well as sense of weakness

How do we approach the decision about Return to Work (RTW)?:

- **No work until symptom free?**
- **Release to work without restriction on activity?**
- **Or somewhere in between?**



"Words no longer have meaning..."

- Antonin Scalia

Shared Definitions:

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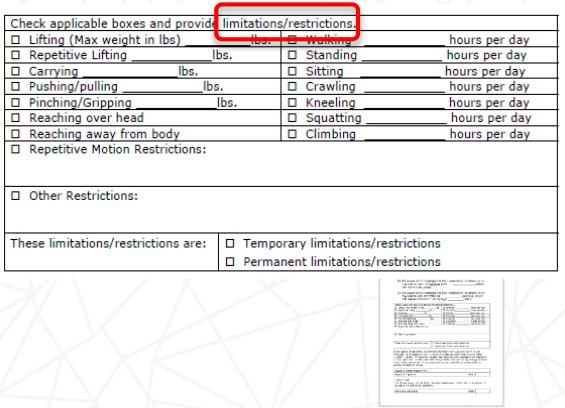
Shared Definitions:

- **Limitation** = activity cannot be performed due to a lack of physical or psychological <u>capacity</u>
  - e.g. limited shoulder ROM → unable to reach overhead machine controls



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AMA, A Physicians Guide to Return to Work. Pg 8-12

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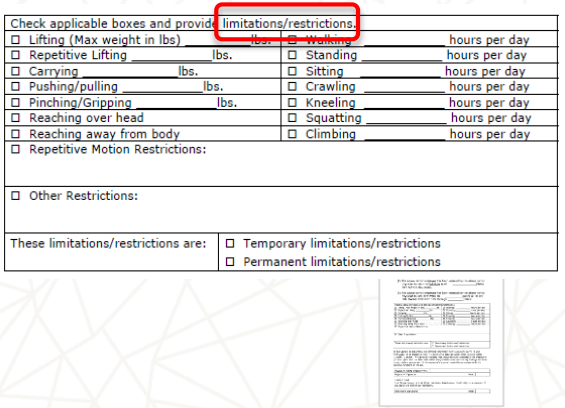
Shared Definitions:

- **Restriction** = activity advised against because of risk of harm
  - e.g. microdiscectomy procedure → no lifting > 10 lbs for 2 weeks



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AMA, A Physicians Guide to Return to Work. Pg 8-12

Shared Definitions:

- **Tolerance ≠ Limitation**

- **Tolerance = "the ability to tolerate sustained work or activity at a given level."**

Example: **"The patient may have the ability to do a certain task (no work limitation or restriction), but not the ability to do it comfortably."**

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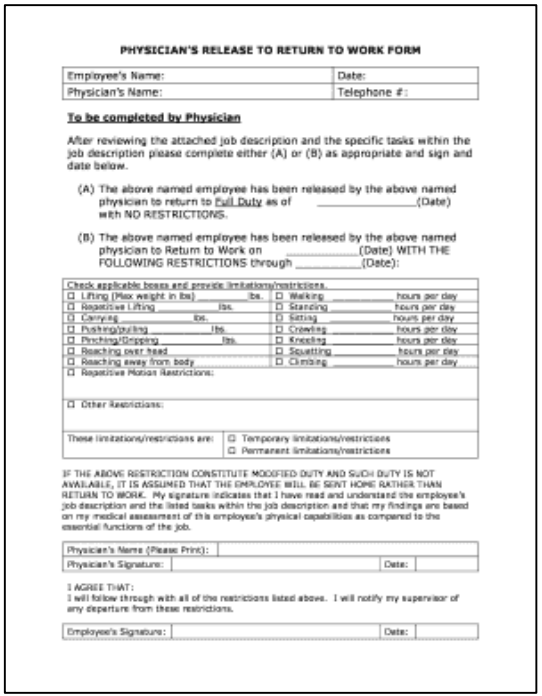
What Do We Mean When We Fill Out the RTW Form?



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What Do We Mean When We Fill Out the RTW Form?

Question #1:

Is there SIGNIFICANT RISK OF SUBSTANTIAL HARM with work activity (not merely an increase in subjective symptoms)?

Yes → **Certify that work RESTRICTIONS are appropriate on the basis of risk**

No → **Consider current Ability**

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What Do We Mean When We Fill Out the RTW Form?

Question #2:

Is the patient actually able to physically do the task in question (NOT considering SYMPTOMS but ABILITY)?

Yes → **Consider TOLERANCE**

No → **State the reason as a LIMITATION**

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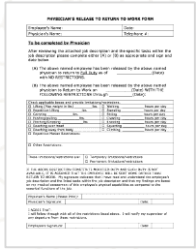
How Do We Determine Restrictions and Limitations?

- **Subjective Data Analysis:**
  - **History**
  - **Elements of the Physical Examination**
- **Objective Data Analysis:**
  - **Elements of the Physical Examination**
  - **Test results (imaging, labs, EMG, etc)**

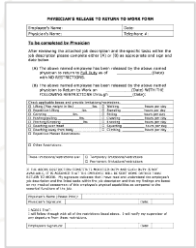


How Do We Determine Restrictions and Limitations?

- **Does Objective Data = Subjective Data?**

How Do We Determine Restrictions and Limitations?

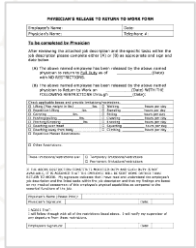
- **Does Objective Data = Subjective Data?**
- **If not, consider:**
  - **Pain behaviors**
  - **Non-organic physical signs**
  - **Pain drawings**
  - **Concordance between imaging findings and symptoms**
  - **Depression and/or Fear Avoidance**



How Do We Determine Restrictions and Limitations?

Pain Behaviors

- "Patients with chronic pain may exhibit behaviors of suffering that are not necessarily consistent with their own self-report of pain intensity or with the degree of objective medical pathology. These behaviors help reveal signs of helplessness, symptom magnification, disability exaggeration, and invalidism."

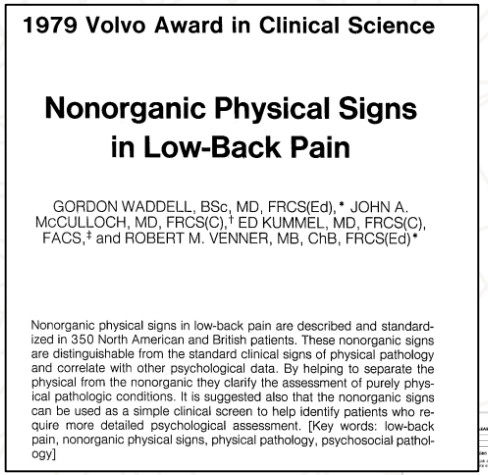


http://www.psychlaw.com/LibraryFiles/PainDisordersLitigation.html

How Do We Determine Restrictions and Limitations?

Non-organic Physical Signs:

- **Waddell Signs:**
  1) Superficial and widespread tenderness or non-anatomic tenderness
  2) Stimulation tests (e.g. simulated rotation)
  3) Distracted straight leg raise
  4) Non-anatomic sensory changes
  5) Overreaction.



1979 Volvo Award in Clinical Science

Nonorganic Physical Signs in Low-Back Pain

GORDON WADDELL, BSc, MD, FRCS(Ed),* JOHN A. McCULLOCH, MD, FRCS(C),† ED KUMMEL, MD, FRCS(C), FACS,‡ and ROBERT M. VENNER, MB, ChB, FRCS(Ed)*

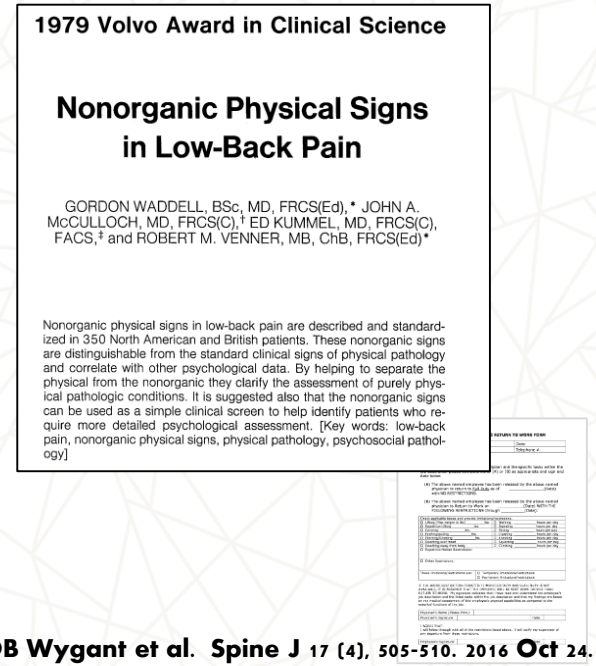
Nonorganic physical signs in low-back pain are described and standardized in 350 North American and British patients. These nonorganic signs are distinguishable from the standard clinical signs of physical pathology and correlate with other psychological data. By helping to separate the physical from the nonorganic they clarify the assessment of purely physical pathologic conditions. It is suggested also that the nonorganic signs can be used as a simple clinical screen to help identify patients who require more detailed psychological assessment. [Key words: low-back pain, nonorganic physical signs, physical pathology, psychosocial pathology]

DB Wygant et al. Spine J 17 (4), 505-510. 2016 Oct 24.

How Do We Determine Restrictions and Limitations?

Non-organic Physical Signs:

- **Waddell Signs:**
  - "Elevated scores on the Waddell signs (**particularly scores of ≥ 2**) were associated with increased odds of exhibiting **somatic over-reporting**."
  - Waddell Signs can help to predict performance on FCE



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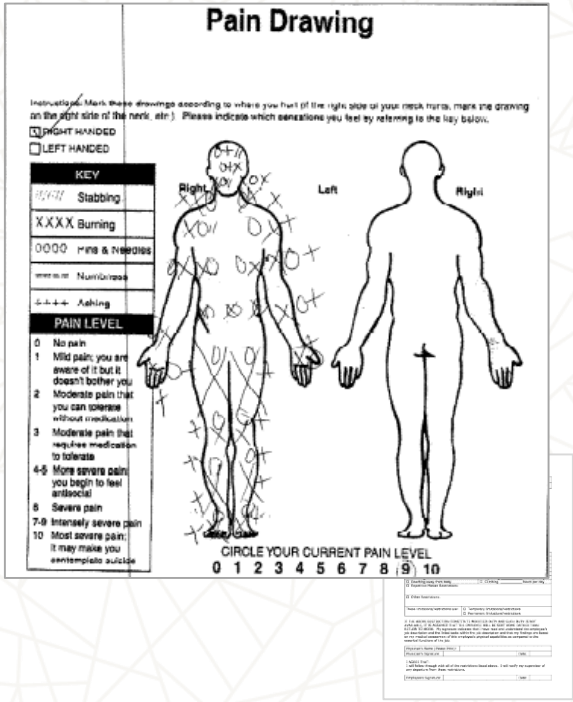
DB Wygant et al. Spine J 17 (4), 505-510. 2016 Oct 24.

The Spine Journal. 2016. 16(1): 105-116

How Do We Determine Restrictions and Limitations?

Pain Drawings:

- Essential for diagnosing disorders such as Chronic Widespread Pain (CWP) and Fibromyalgia (FMS).
- Non-organic pain drawings associated with a higher self-reported disability and Disability Rating Index.
- Pain extent is significantly correlated with the ODI.



Pain Pract. 2015 Apr;15(4):300-7. doi: 10.1111/papr.12173. Epub 2014 Feb 27.

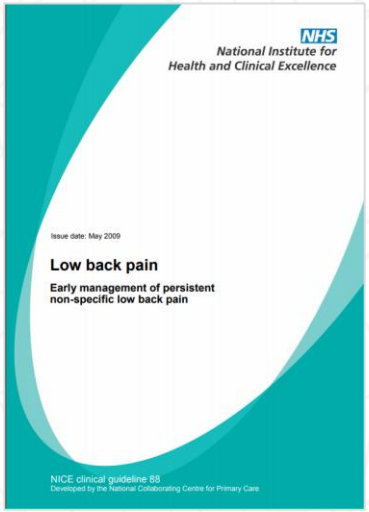
Review of the Evidence:

Work Activity Restrictions for Spine-Related Issues

Non-specific Low Back Pain:

- National Institute for Health and Clinical Excellence
  - Guidelines to improve early management of low back pain
  - Consideration of primarily axial LBP

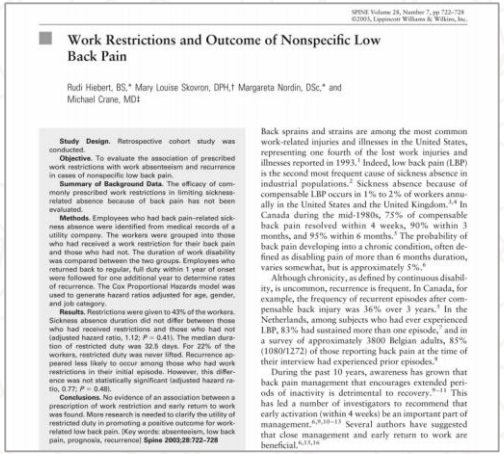
- "All patients should be offered advice to be physically active and to pursue normal activities as far as possible."



BMJ. 2009 Jun 4;338:b1805. doi: 10.1136/bmj.b1805

Non-specific Low Back Pain and RTW:

- **"No evidence could be found to demonstrate that a prescription of work restriction is associated with reduced disability duration from LBP..."**
- **"There is evidence that once work restrictions are prescribed, they remain in place longer than required by the physiologic period of healing."**



SPINE Volume 28, Number 7, pp 722–728
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Work Restrictions and Outcome of Nonspecific Low Back Pain

Rudi Hiebert, BS,* Mary Louise Skovron, DPH,† Margareta Nordin, DSc,* and Michael Crane, MD‡

Study Design. Retrospective cohort study was conducted.

Objective. To evaluate the association of prescribed work restrictions with work absenteeism and recurrence in cases of nonspecific low back pain.

Summary of Background Data. The efficacy of commonly prescribed work restrictions in limiting sickness-related absence because of back pain has not been evaluated.

Methods. Employees who had back pain–related sickness absence were identified from medical records of a utility company. The workers were grouped into those who had received a work restriction for their back pain and those who had not. The duration of work disability was compared between the two groups. Employees who returned back to regular, full duty within 1 year of onset were followed for one additional year to determine rates of recurrence. The Cox Proportional Hazards model was used to generate hazard ratios adjusted for age, gender, and job category.

Results. Restrictions were given to 43% of the workers. Sickness absence duration did not differ between those who had received restrictions and those who had not (adjusted hazard ratio, 1.12; $P = 0.41$). The median duration of restricted duty was 32.5 days. For 22% of the workers, restricted duty was never lifted. Recurrence appeared less likely to occur among those who had work restrictions in their initial episode. However, this difference was not statistically significant (adjusted hazard ratio, 0.77; $P = 0.48$).

Conclusions. No evidence of an association between a prescription of work restriction and early return to work was found. More research is needed to clarify the utility of restricted duty in promoting a positive outcome for work-related low back pain. [Key words: absenteeism, low back pain, prognosis, recurrence] **Spine 2003;28:722–728**

Back sprains and strains are among the most common work-related injuries and illnesses in the United States, representing one fourth of the lost work injuries and illnesses reported in 1993.[1] Indeed, low back pain (LBP) is the second most frequent cause of sickness absence in industrial populations.[2] Sickness absence because of compensable LBP occurs in 1% to 2% of workers annually in the United States and the United Kingdom.[3,4] In Canada during the mid-1980s, 75% of compensable back pain resolved within 4 weeks, 90% within 3 months, and 95% within 6 months.[5] The probability of back pain developing into a chronic condition, often defined as disabling pain of more than 6 months duration, varies somewhat, but is approximately 5%.[6]

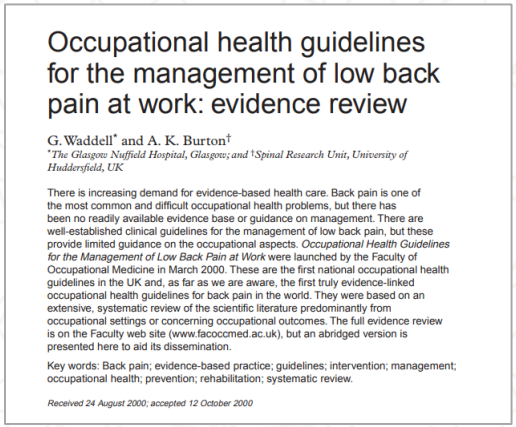
Although chronicity, as defined by continuous disability, is uncommon, recurrence is frequent. In Canada, for example, the frequency of recurrent episodes after compensable back injury was 36% over 3 years.[5] In the Netherlands, among subjects who had ever experienced LBP, 83% had sustained more than one episode,[7] and in a survey of approximately 3800 Belgian adults, 85% (1080/1272) of those reporting back pain at the time of their interview had experienced prior episodes.[8]

During the past 10 years, awareness has grown that back pain management that encourages extended periods of inactivity is detrimental to recovery.[9–11] This has led a number of investigators to recommend that early activation (within 4 weeks) be an important part of management.[6,9,10–13] Several authors have suggested that close management and early return to work are beneficial.[6,13,14]

Spine. 2003 Apr 1;28(7):722-8.

Non-specific Low Back Pain and RTW:

"There is strong epidemiological and clinical evidence that care seeking and disability due to LBP depend more on complex individual and work-related psychosocial factors than on clinical features or physical demands of work."



Occupational health guidelines for the management of low back pain at work: evidence review

G. Waddell* and A. K. Burton†
*The Glasgow Nuffield Hospital, Glasgow; and †Spinal Research Unit, University of Huddersfield, UK

There is increasing demand for evidence-based health care. Back pain is one of the most common and difficult occupational health problems, but there has been no readily available evidence base or guidance on management. There are well-established clinical guidelines for the management of low back pain, but these provide limited guidance on the occupational aspects. *Occupational Health Guidelines for the Management of Low Back Pain at Work* were launched by the Faculty of Occupational Medicine in March 2000. These are the first national occupational health guidelines in the UK and, as far as we are aware, the first truly evidence-linked occupational health guidelines for back pain in the world. They were based on an extensive, systematic review of the scientific literature predominantly from occupational settings or concerning occupational outcomes. The full evidence review is on the Faculty web site (www.facoccmed.ac.uk), but an abridged version is presented here to aid its dissemination.

Key words: Back pain; evidence-based practice; guidelines; intervention; management; occupational health; prevention; rehabilitation; systematic review.

Received 24 August 2000; accepted 12 October 2000

Occupational health guidelines for the management of low back pain at work. Waddell. 2000.

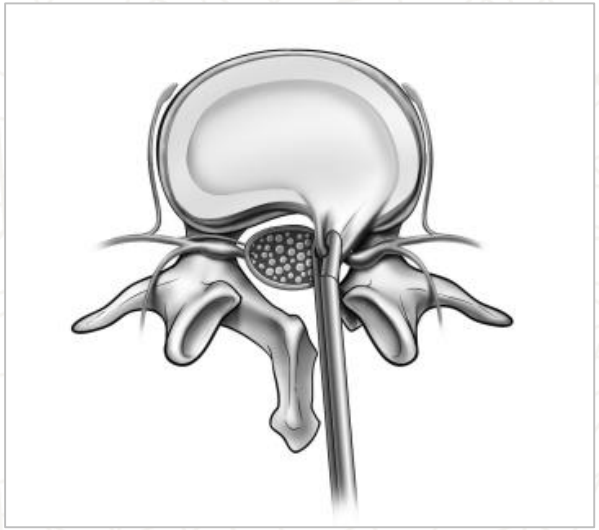
Non-specific Low Back Pain and RTW:

"There are things that we do not know we don't know." (Donald Rumsfeld)

Are We Even Prescribing the Right Restrictions?

- "The setting of a lifting limit by weight alone without defining other lifting parameters makes no sense." [2]
- Lifting height (as opposed to weight) may be the dominant risk factor for low back pain [1]

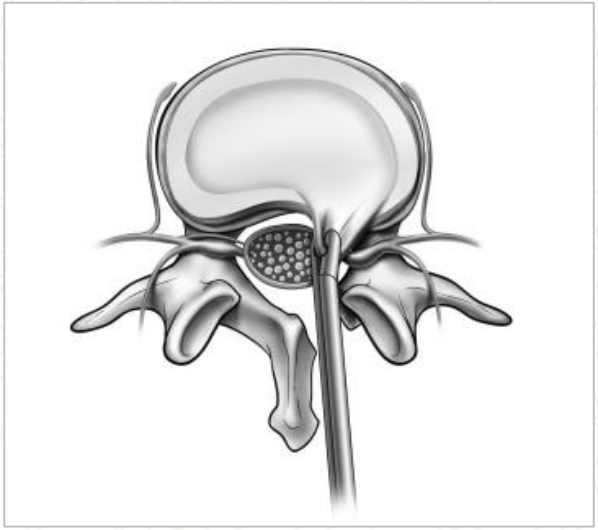
1. BMC Musculoskelet Disord. 2006 May 31;7:47.
2. European Spine Journal March 2017, Volume 26, Issue 3, pp 905–912)



Post-lumbar Discectomy RTW:

Background:

- **Recurrent disc herniation occurs in 5-15% of patients**
- **Variability amongst surgeons regarding RTW recommendations (study of British spine surgeons)**
  - Average time for restriction:
    - 10 weeks off work for manual workers
    - 5 weeks for individuals in sedentary occupations.
  - Different surgeons nominated periods between **4 and 28** weeks

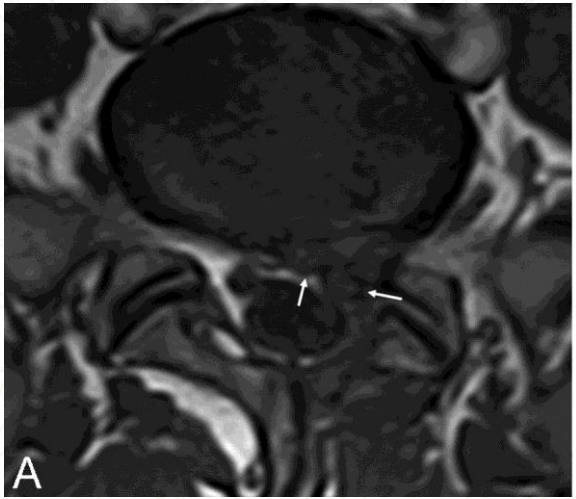


BMC Musculoskelet Disord. 2006 May 31;7:47.

Post-lumbar Discectomy RTW:

Factors affecting risk for recurrent LDH:

1) **Smoking**
2) **Diabetes**
3) **BMI > 24.4**
4) **Disc protrusion**
   - As opposed to extrusion or sequestration
5) **Occupational lifting**
   - Meta-analysis data has not shown a clear or consistent association with work status



J Spinal Disord Tech. 2015 Jun;28(5):E265-9.
J Clin Med Res. 2018 Jun; 10(6): 486–492
Medicine (Baltimore). 2016 Jan; 95(2): e2378.

Post-lumbar Discectomy RTW:

Short (2weeks) vs long (6weeks) post-operative restrictions:

- **Equivalent clinical outcomes irrespective of the length of post-operative restriction.**
- **If patients are deemed at low risk**

  (i.e. non-smoking, BMI <24.4, non-diabetic, etc):

  - **Early return to activity at 2 weeks will not compromise outcomes,**
  - **And should not adversely impact the risk of reherniation.**

Eur Spine J. 2017 Mar;26(3):905-912. doi: 10.1007/s00586-016-4821-9. Epub 2016 Nov 2.

Post-lumbar Discectomy RTW:

No activity restriction after lumbar discectomy:

- **Average work loss time: 1.2 weeks**
- **Removing postoperative activity restrictions allows:**
  1) **"Earlier return to work and resumption of full work duties"**
  2) **And "does not cause increased complications when compared to more conservative postoperative management protocols."**

Activity Restrictions After Posterior Lumbar Discectomy

A Prospective Study of Outcomes in 152 Cases With No Postoperative Restrictions

Eugene J. Carragee, MD,* Michael Y. Han, MA,† Benjamin Yang, BS,† David H. Kim, MD,‡ Helena Kraemer, PhD,§ and James Billys, MD‖

Study Design. A prospective clinical trial was conducted.

Objectives. To determine the feasibility of removing activity restrictions after surgery and encouraging early return to work, to ascertain the clinical and behavioral response to such a strategy, and to identify factors predictive of failure to return to work, preservation of postoperative clinical status.

Summary of Background Information. Current practice usually entails several weeks to several months of restricted activities after lumbar discectomy to avoid disc "reinjury." Earlier work has suggested these restrictions may not be necessary.

Methods. One hundred fifty-two consecutive working patients undergoing limited open discectomy for herniated lumbar intervertebral disc were treated postoperatively with no activity restrictions. Patients were encouraged to return to full activities as soon as possible. The patients were followed for a minimum of 2 years (average follow-up, 4.8 years). At follow-up, an independent interviewer interviewed each patient and collected further postoperative data.

Results. One hundred forty-nine of the 152 patients (98%) returned to work. The average work loss was 1.2 weeks and 146 of 149 patients had returned to full duty by 8 weeks. Approximately one-third of the group returned to work within 1 week of surgery (32%), many the next day. Statistical analysis demonstrated very early return to work did not correlate with either recurrent sciatica, reoperation for reherniation, or ultimate clinical outcome. Seventeen patients (11.2%) had possible reherniations (recurrent sciatica) and eight underwent reoperation (5.3%).

Conclusions. Lifting of postoperative activity restrictions after limited discectomy allowed shortened time to return to work relative to the 4 to 16 weeks commonly recommended. Complication rates appear comparable to those reported in the literature for patients under postoperative restrictions. Postoperative restrictions may not be necessary in most patients. [Key words: intervertebral disk displacement, postoperative complications, discectomy, herniated disk, return to work] **Spine 1995;20:2346–2351**

The success rate of lumbar discectomy ranges from 49% to 90% according to previously described evaluation cri-

From the Spinal Surgery Section, Orthopaedic Surgery Division, Stanford University School of Medicine, Stanford, California.

Acknowledgment date: November 10, 1998.
First revision date: December 22, 1998.
Acceptance date: January 25, 1999.
Device status category: 1.

2346

teria.[1,2,3,5,7,17] With such variability in clinical outcome, there has been much interest in determining preoperative factors which could be used to predict clinical outcome of lumbar disc surgery. Recently, several studies have been performed to investigate the utility of clinical variables in predicting good or bad outcomes following lumbar discectomy. These studies have focused on such variables as duration and severity of sciatica, demographic factors, and socioeconomic factors.[6,11,13,18]

The goal of treatment is the rapid functional return of the patient to their condition before the sciatica episode. There is evidence that in patients with less severe symptoms and without neurologic loss the long-term result is similar whether surgery is performed or not. However, the common perception is that functional recovery is much faster with operative decompression. Most patients after open discectomy are restricted in their activities for some period of time by discomfort and medical recommendation. How long restrictions should be employed, and whether clinical results are improved by such restrictions, is not known.

We have previously reported a small cohort of patients treated without specific restrictions after limited discectomy.[1] This group appeared to do well in the short term after a relatively short follow-up time (average = 3.8 years), in a small number of patients (50). To more critically evaluate this question, the present study was prospectively designed with a larger cohort of patients (152), combining both pre- and post-operative data, and having longer follow-up time (average = 4.8 years). We were interested in whether the satisfactory results of the earlier study could be reproduced under a more exacting protocol with longer follow-up.

Information from this study is necessary for consideration of any possible randomized clinical trial in the future, in order to establish feasibility of lifting restrictions, ascertain whether the postoperative behavior of patients without restrictions is likely to differ from those with restrictions and what magnitude, and for preliminary consideration of the possibility of increased complication rates with lifting of such restrictions.

Methods and Materials

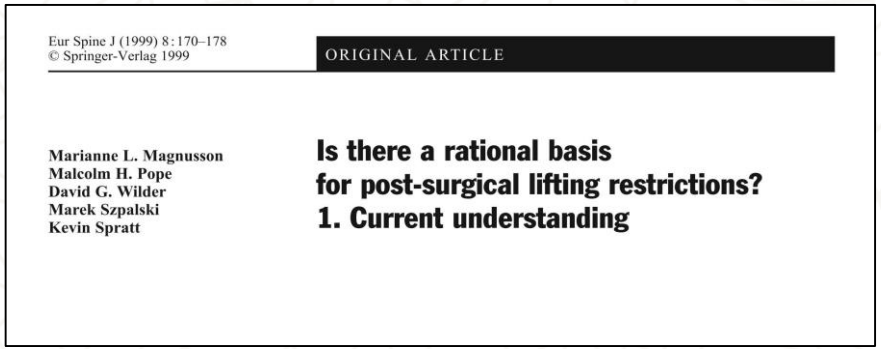
In this study 152 consecutive patients undergoing limited open discectomy for herniated lumbar intervertebral disk were prospectively enrolled from the period of January 1990 to Decem-

Spine. 1996 **Aug** 15;21(16):1893-7.

Post-lumbar Discectomy RTW:

Meta Analysis:

"No clear evidence to support restrictions of RTW timing or lifting even when mechanical factors were considered."



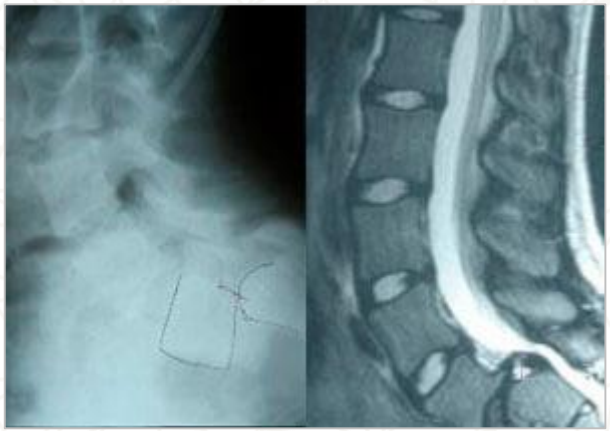
Eur Spine J (1999) 8:170–178
© Springer-Verlag 1999

ORIGINAL ARTICLE

Marianne L. Magnusson
Malcolm H. Pope
David G. Wilder
Marek Szpalski
Kevin Spratt

Is there a rational basis for post-surgical lifting restrictions? 1. Current understanding

European Spine Journal March 2017, Volume 26, Issue 3, pp 905–912)



Post-lumbar Fusion RTW:

Golf

‘It’s almost miraculous’: Tiger Woods’s return from back surgery is a medical marvel

Tiger Woods’s 2019 Masters victory marks a new chapter in his career. Here’s a look at one of the key factors: Anterior lumbar interbody fusion. (Adriana Usero/The Washington Post)

The Possible:

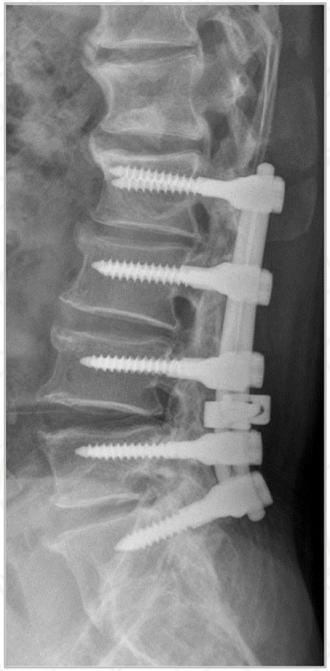
- **Tiger Woods Masters Win 2019**
- **Less than 2 years after L5-S1 ALIF**

https://www.washingtonpost.com/sports/2019/04/16/why-tiger-woodss-return-back-surgery-was-nearly-miraculous/?utm_term=.4560c608522a

Post-lumbar Fusion RTW:

The (Grim) Reality for Fusion in WC:

- **Lumbar fusion (as opposed to nonsurgical management) for the diagnoses of disc degeneration, disc herniation, and/or radiculopathy in a WC setting is associated with:**
  - **Significant increase in disability and opiate use**
  - **Prolonged work loss**
  - **Poor RTW status**

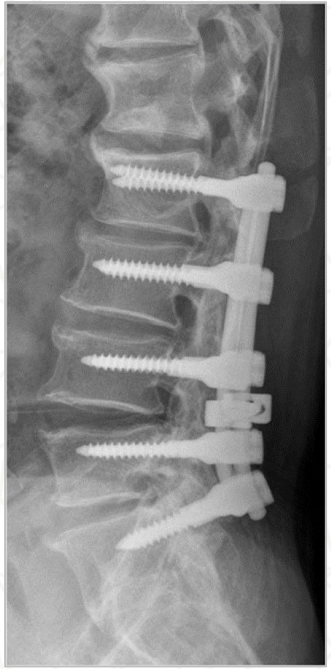


Spine: February 15, 2011 - Volume 36 - Issue 4 - p 320–331.

Post-lumbar Fusion RTW:

Prognostic Factors for RTW:

- 77.3 % of workers returned to work after 2 years
- Clinical factors with predictive value:
  - Small fingertip-floor distance
  - Low anxiety/depression score



Spine: February 15, 2011 - Volume 36 - Issue 4 - p 320–331.

Post-lumbar Fusion RTW:

Typical Timeline:

- **Walking was permitted on the first postoperative day and progressed at 4 to 6 weeks after surgery.**
- **Exercises on the stationary bike or water therapy began at 6 to 8 weeks**
- **Exercises for flexion of the spine and strengthening of the abdominal muscles were added at 10 to 12 weeks.**
- **No brace or corset was used after surgery in either group.**

Degenerative Lumbar Spondylolisthesis With Spinal Stenosis

A Prospective Long-Term Study Comparing Fusion and Pseudarthrosis

Martin B. Kornblum, MD,* Jeffrey S. Fischgrund, MD,† Harry N. Herkowitz, MD,† David A. Abraham, MD,‡ David L. Berkower, DO,§ and Jeff S. Ditkoff‖

Study Design. A prospective, randomized study on patients who underwent posterior lumbar decompression with bilateral posterolateral arthrodesis.

Objective. To determine the long-term influence of pseudarthrosis on the clinical outcome of patients with degenerative spondylolisthesis and spinal stenosis.

Summary of Background Data. Spinal decompression and posterolateral arthrodesis have been shown to be beneficial in the surgical treatment of symptomatic spinal stenosis with concurrent spondylolisthesis.

Methods. Forty-seven patients with single-level symptomatic spinal stenosis and spondylolisthesis were prospectively studied. Patients were treated with posterior decompression and bilateral posterolateral arthrodesis with autogenous bone graft. Radiographic evaluation was used to determine if fusion or pseudarthrosis was present. The solid fusion and pseudarthrosis groups were analyzed clinically, roentgenographically, and with a validated self-administered spinal stenosis questionnaire.

Results. Forty-seven patients were available for review at a range of follow-up from 5 to 14 years. Average follow-up was 7 years 8 months. Clinical outcome was excellent to good in 86% of patients with a solid arthrodesis and in 58% of patients with a pseudarthrosis ($P < 0.01$). Significant differences in residual back and lower limb pain was discovered between the two groups using a scale ranging from 0 (no pain) to 5 (severe pain). Preoperative back and lower limb pain scores were statistically similar between the two groups. The solid fusion group performed significantly better in the symptom severity and physical function categories on the self-administered questionnaire. The two groups had similar results in the patient satisfaction category of this questionnaire.

Conclusions. In patients undergoing single-level decompression and posterolateral arthrodesis for spinal stenosis and concurrent spondylolisthesis, a solid fusion improves long-term clinical results. Benefits of a successful arthrodesis over pseudarthrosis were demonstrated with respect to back and lower limb symptomatology compared with prior shorter-term studies, which indicated no significant difference in clinical outcome between the two groups. [Key words: degenerative spondylolisthesis, lumbar spine, spinal fusion, stenosis] **Spine 2004;29:726–734**

Degenerative spondylolisthesis was first described by Newman in 1955.[1] Earlier descriptions contrasted this condition from those caused by a pars interarticularis defect. Junghanns introduced the term "pseudospondylolisthesis" in 1930.[2] He recognized the distinction of an intact posterior element in his examination of anatomic specimens from Schmorl's collection. However, this term led to some confusion, as there is indeed a true spondylolisthesis in this condition. Thus, MacNab, in 1950, utilized "spondylolisthesis with an intact neural arch."[3] Wiltse *et al* established a widely accepted classification of spondylolisthesis based on etiology.[4] Degenerative spondylolisthesis comprises one of five elements in this system.

The operative management of degenerative spondylolisthesis has remained controversial. Early authors recommended decompression alone; stabilization procedures after laminectomy were considered unnecessary.[5–7] Herkowitz and Kurz, in 1991, performed a prospective, randomized study comparing decompression alone with decompression and bilateral posterolateral arthrodesis.[11] Fifty consecutive patients were assigned alternately to one of two treatment groups. Follow-up averaged 3 years. The results of this study demonstrated a significantly improved clinical outcome in those patients who underwent decompression with a concomitant arthrodesis. Pseudarthrosis was noted in 9 patients (36%) of the arthrodesis group. However, all patients with a pseudarthrosis had an excellent or good outcome at final evaluation.

The addition of spinal instrumentation has been advocated by some authors in the operative management of degenerative spondylolisthesis with spinal stenosis.[12–16] Instrumentation has been recommended to increase the fusion rate, decrease the rehabilitation time, and improve patient outcome.[17] However, based on the results of short to intermediate range studies, fusion status does not affect clinical outcome.[14,15] A fibrous union appears to provide sufficient stabilization and to provide pain relief of the back and lower extremities.

From the †Department of Orthopaedics, University of Virginia, Charlottesville, VA; ‡Southfield, MI; §West Reading, PA; ‖Department of Internal Medicine, Bonsford Hospital, Farmington Hills, MI; and ¶Bloomfield Hills, MI.

Acknowledgment date: May 25, 2003. First revision date: November 3, 2003. Second revision date: June 23, 2003.

The manuscript submitted does not contain information about medical devices/drug(s).

No funds were received in support of this work. No benefits in any form have been or will be received from a commercial party related directly or indirectly to the subject of this manuscript.

Address correspondence to: Jeffrey S. Fischgrund, MD, 27207 Lahser Rd., Suite 200B, Southfield, MI 48034; E-mail: jsfischgrund@comcast.net

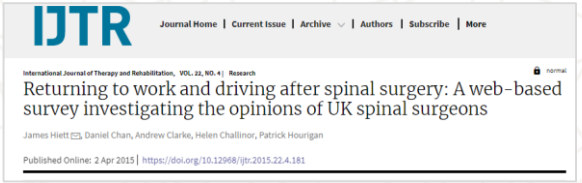
726

Spine: 2004 - **Volume** 29 - **Issue** 7 - **p** 726-733.

Post-lumbar Fusion RTW:

Post-fusion advice from surgeons:

- 60% recommend returning to driving at 4 weeks.
- >50% recommend returning to work in a light manual capacity after 6 weeks
- Longer time frames were indicated for manual and 'heavy manual' workers, with the majority of respondents recommending 12 weeks following lumbar fusion surgery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International Journal of Therapy and Rehabilitation, VOL. 22, NO. 4 | Research

Returning to work and driving after spinal surgery: A web-based survey investigating the opinions of UK spinal surgeons

James Hiett, Daniel Chan, Andrew Clarke, Helen Challinor, Patrick Hourigan

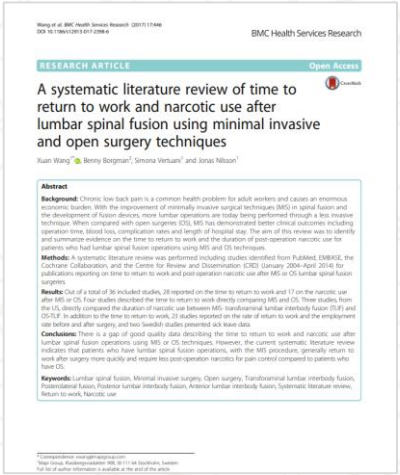
Published Online: 2 Apr 2015 | https://doi.org/10.12968/ijtr.2015.22.4.181

International Journal of Therapy and RehabilitationVol. 22, No. 4. 1741-1645.

Post-lumbar Fusion RTW:

Return to work statistics (study from South Korea):

- **Lumbar transforaminal interbody fusion (TLIF):**
  - **Mean RTW time: 7-8.5 weeks**
  - **80% RTW by 12 months after surgery**
- **Circumferential lumbar fusion:**
  - **Full and unrestricted return to activity:**
    - **3.6 +/- months (14-15 weeks)**
  - **Study data from Korea contrasts with US data which generally reports longer RTW times**



BMC Health Services Research

RESEARCH ARTICLE Open Access

A systematic literature review of time to return to work and narcotic use after lumbar spinal fusion using minimal invasive and open surgery techniques

Abstract

BMC Health Services Research (2017) 17:446

Post-cervical ACDF RTW for Cervical Radiculopathy:

Background:

- **Rates of RTW in WC cases:**
  - 48% at 6 months post-ACDF
  - 77.7% at 12 months
    - Comparable to 79.4% in non-industrial cases
- **Days off Before RTW:**
  - Mean of 145.2 days for WC cases
  - **61.9 days for non-industrial cases**

J Bone Joint Surg Am. 2016 Jan 20;98(2):93-9.

Post-cervical ACDF RTW for Cervical Radiculopathy:

Background:

- Cervical ACDF for DDD and axial only neck pain:
  - Associated with:
    - Lower RTW rates
    - Higher disability
    - Higher opioid use after surgery
  - "Multilevel cervical fusion for DDD may be counterproductive."

Spine: May 1, 2017 - Volume 42 - Issue 9 - p 700-706.

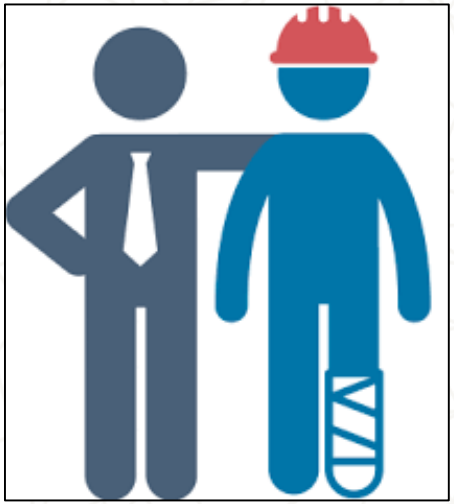
Post-cervical ACDF RTW for Cervical Radiculopathy:

Changing the conversation:

- "Peyton Manning had this same neck surgery and …"

- Retrospective chart and radiographic review:
  - "After a single-level ACDF, an athlete may return to contact sports…"
  - 13/15 players returned to their sport with full contact
    - Range to RTP: 2-12 months postoperatively
    - Mean = 6 months

Neurosurgery. Volume 73, Issue 1, 1 July 2013, Pages 103–112.



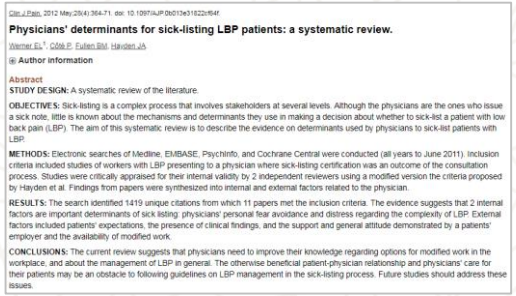
Strategies to Facilitate Return to Pre-Disability Function:

Physician Communication and Expectations

"The sick-listing process for LBP is complex, and the determinants are mostly non-medical."

Predictors of sick listing:

1. **Physicians' personal fear avoidance**
2. **Physician distress regarding the complexity of LBP.**



Clin J Pain. 2012 May;28(4):364-71. doi: 10.1097/AJP.0b013e31822cf64f.

Physicians' determinants for sick-listing LBP patients: a systematic review.

Wiener EL[1], Côté P, Furlan AM, Hayden JA

Author information

Abstract

STUDY DESIGN: A systematic review of the literature.

OBJECTIVES: Sick-listing is a complex process that involves stakeholders at several levels. Although the physicians are the ones who issue a sick note, little is known about the mechanisms and determinants they use in making a decision about whether to sick-list a patient with low back pain (LBP). The aim of this systematic review is to describe the evidence on determinants used by physicians to sick-list patients with LBP.

METHODS: Electronic searches of Medline, EMBASE, PsycInfo, and Cochrane Central were conducted (all years to June 2011). Inclusion criteria included studies of workers with LBP presenting to a physician where sick-listing certification was an outcome of the consultation process. Studies were critically appraised for their internal validity by 2 independent reviewers using a modified version the criteria proposed by Hayden et al. Findings from papers were synthesized into internal and external factors related to the physician.

RESULTS: The search identified 1419 unique citations from which 11 papers met the inclusion criteria. The evidence suggests that 2 internal factors are important determinants of sick listing: physicians' personal fear avoidance and distress regarding the complexity of LBP. External factors included patients' expectations, the presence of clinical findings, and the support and general attitude demonstrated by a patients' employer and the availability of modified work.

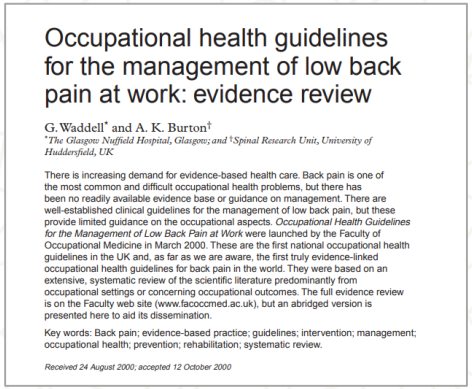
CONCLUSIONS: The current review suggests that physicians need to improve their knowledge regarding options for modified work in the workplace, and about the management of LBP in general. The otherwise beneficial patient-physician relationship and physicians' care for their patients may be an obstacle to following guidelines on LBP management in the sick-listing process. Future studies should address these issues.

Clin J Pain. 2012 May;28(4):364-71.

Strategies to Facilitate Return to Pre-Disability Function:

Early and Graded RTW

"...Early return to work (or continuing work) with some persisting symptoms does not increase the risk of 'reinjury' but actually reduces recurrences and sickness absence over the following year."



Occupational health guidelines for the management of low back pain at work: evidence review

G. Waddell* and A. K. Burton†
*The Glasgow Nuffield Hospital, Glasgow; and †Spinal Research Unit, University of Huddersfield, UK

There is increasing demand for evidence-based health care. Back pain is one of the most common and difficult occupational health problems, but there has been no readily available evidence base or guidance on management. There are well-established clinical guidelines for the management of low back pain, but these provide limited guidance on the occupational aspects. *Occupational Health Guidelines for the Management of Low Back Pain at Work* were launched by the Faculty of Occupational Medicine in March 2000. These are the first national occupational health guidelines in the UK and, as far as we are aware, the first truly evidence-linked occupational health guidelines for back pain in the world. They were based on an extensive, systematic review of the scientific literature predominantly from occupational settings or concerning occupational outcomes. The full evidence review is on the Faculty web site (www.facoccmed.ac.uk), but an abridged version is presented here to aid its dissemination.

Key words: Back pain; evidence-based practice; guidelines; intervention; management; occupational health; prevention; rehabilitation; systematic review.

Received 24 August 2000; accepted 12 October 2000

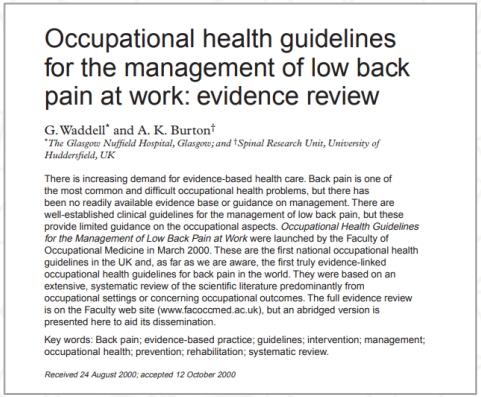
Occupational Medicine. Volume 51, Issue 2, 1 March 2001, Pg 124–135.

Strategies to Facilitate Return to Pre-Disability Function:

Early and Graded RTW

"There is strong evidence that the longer a worker is off work with LBP, the lower their chances of ever returning to work."

"Once a worker is off work for 4-12 weeks they have a 10-40% risk (depending on the setting) of still being off work at 1 year."



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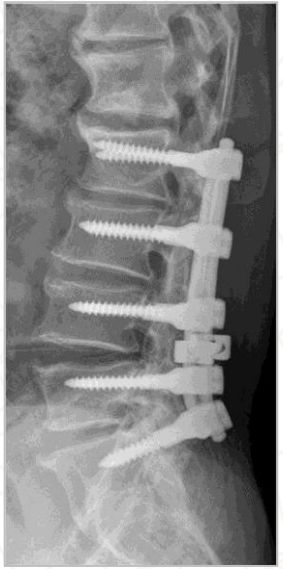
Received 24 August 2000; accepted 12 October 2000

Occupational Medicine. Volume 51, Issue 2, 1 March 2001, Pg 124–135.

Strategies to Facilitate Return to Pre-Disability Function:

Should We Be Treating Depression Before Surgerizing?

"Independent of postoperative improvement in pain, disability, and quality of life, the extent of preoperative depression was an independent predictor of time to return to work in patients undergoing TLIF for spondylolisthesis."



World Neurosurgery. Volume 83, Issue 4, April 2015, Pages 608-613

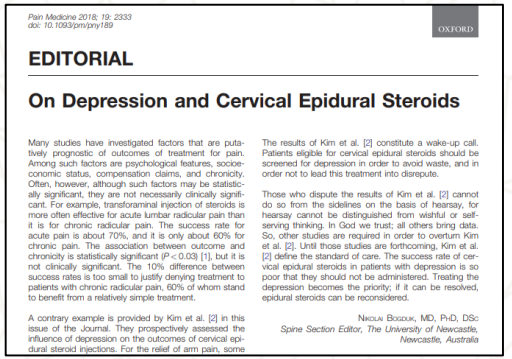
Strategies to Facilitate Return to Pre-Disability Function:

It's Not Just Surgery, But Depression Affects Outcomes on Other Procedures

"The success rate of cervical epidural steroids in patients with depression is so poor that they should not be administered.

<u>Treating the depression becomes the priority</u>; if it can be resolved, epidural steroids can be reconsidered."

- Nikolai Bogduk



Pain Medicine 2018; 19: 2333
doi: 10.1093/pm/pny189

OXFORD

EDITORIAL

On Depression and Cervical Epidural Steroids

Many studies have investigated factors that are putatively prognostic of outcomes of treatment for pain. Among such factors are psychological features, socioeconomic status, compensation claims, and chronicity. Often, however, although such factors may be statistically significant, they are not necessarily clinically significant. For example, transforaminal injection of steroids is more often effective for acute lumbar radicular pain than it is for chronic radicular pain. The success rate for acute pain is about 70%, and it is only about 60% for chronic pain. The association between outcome and chronicity is statistically significant ($P < 0.03$) [1], but it is not clinically significant. The 10% difference between success rates is too small to justify denying treatment to patients with chronic radicular pain, 60% of whom stand to benefit from a relatively simple treatment.

A contrary example is provided by Kim et al. [2] in this issue of the Journal. They prospectively assessed the influence of depression on the outcomes of cervical epidural steroid injections. For the relief of arm pain, some

The results of Kim et al. [2] constitute a wake-up call. Patients eligible for cervical epidural steroids should be screened for depression in order to avoid waste, and in order not to lead this treatment into disrepute.

Those who dispute the results of Kim et al. [2] cannot do so from the sidelines on the basis of hearsay, for hearsay cannot be distinguished from wishful or self-serving thinking. In God we trust; all others bring data. So, other studies are required in order to overturn Kim et al. [2]. Until those studies are forthcoming, Kim et al. [2] define the standard of care. The success rate of cervical epidural steroids in patients with depression is so poor that they should not be administered. Treating the depression becomes the priority; if it can be resolved, epidural steroids can be reconsidered.

Nikolai Bogduk, MD, PhD, DSc
Spine Section Editor, The University of Newcastle, Newcastle, Australia

Pain Medicine, Volume 19, Issue 12, December 2018, Page 2333.


THE BAD NEWS IS, WE HAD TO REMOVE YOUR SPINE.... THE GOOD NEWS IS, IT HOLDS TWENTY FIVE CDS
Paul T.

Case-Based Discussion

"Medicine is a science of uncertainty and an art of probability."

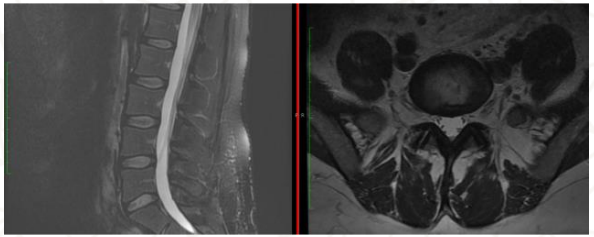
- Sir William Osler

Case 1:

36 year-old female with low back and leg pain as well as sense of weakness

History:

- **Symptoms began after bending and feeling a "pop" in the back about 3 months ago**
- **Pain localized to right lower lumbar region with referral to the posterior aspect of RLE**
- **Associated sense of weakness in RLE and intermittent numbness in toes I-III**
- **Interventions:**
  - **PT and Chiropractic care: unable to tolerate**
  - **ESI with no relief**

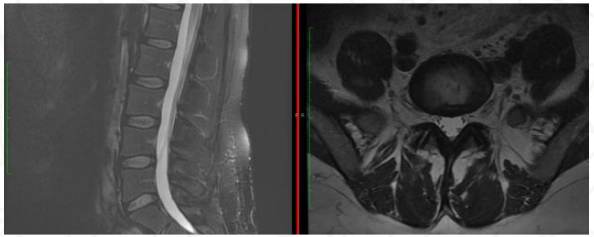


Case 1:

36 year-old female with low back and leg pain as well as sense of weakness

What additional "objective" testing should the clinician order?

A. EMG
B. FCE
C. Surveillance video
D. None of the above is necessary



Case 2:

52 year-old male with axial low back pain

History:

- Chronic episodic symptoms
- Pain has been worse after stocking shelves at work a few months ago
- Pain localized to a band across the lower lumbar region without referral to the lower limbs
- Interventions:
  - Chiropractic care
  - Physical therapy
  - ESI with no relief

Case 2:

52 year-old male with axial low back pain

What Activity Restrictions should the clinician recommend?

A. No lifting > 15 lbs
B. Avoid frequent bending or twisting
C. Avoid lifting at a height below waist level
D. No restriction on activity


I HOPE THESE MAKE YOU FEEL BETTER, BECAUSE THEY'RE ALL YOU'RE GETTING.
Rx PAINKILLER CRACKDOWN

EVIDENCE INFORMED RETURN TO WORK.

BY THE SWEAT OF THY BROW

Notes

- **Limitations** = **"activity cannot be performed due to a lack of physical or psychological capacity"**
- **Restriction** = **activity advised against because of risk of harm**
- **Tolerance ≠ Limitation**
- **RTW Questions:**
  - **"Is there significant risk of substantial harm with work activity (not merely an increase in subjective symptoms)?"**
  - **"Is the patient actually able to physically do the task in question (not considering symptoms but ability)?"**

AMA, A Physicians Guide to Return to Work.

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