



Red Herrings and Medical Overdiagnosis Drive Large-Loss Workers' Compensation Claims

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“Five percent of injured workers account for 80 percent of the cost and lost time in workers’ compensation systems,” according to the American College of Occupational and Environmental Medicine (ACOEM).¹ “The majority of these workers end up on long-term disability following injuries that would not be considered serious at their outset.”

One-third of Social Security Disability’s recipients are receiving benefits because of musculoskeletal disabilities. For example, in Washington State, as many as 9.2 percent of compensable claimants in one year will likely end up on permanent disability, many on Social Security (SSDI). This paper describes what all risk and claims professionals see time and again. The common musculoskeletal injury where recovery stalls, no treatment works and the injury becomes a “creeping catastrophe.” We can improve injured workers’ diagnostic accuracy and treatment to reduce high-cost claims.

Low-back injuries are the most costly, and the most researched, musculoskeletal conditions. Lockton’s large claims database indicates that low back injuries represent 20 percent of all loss dollars. When looking at claims over \$250,000, they represent 25 percent of loss dollars. Statistics published by Deyo, et. al demonstrate that in the Medicare population, spinal imaging (especially MRI) rose by a

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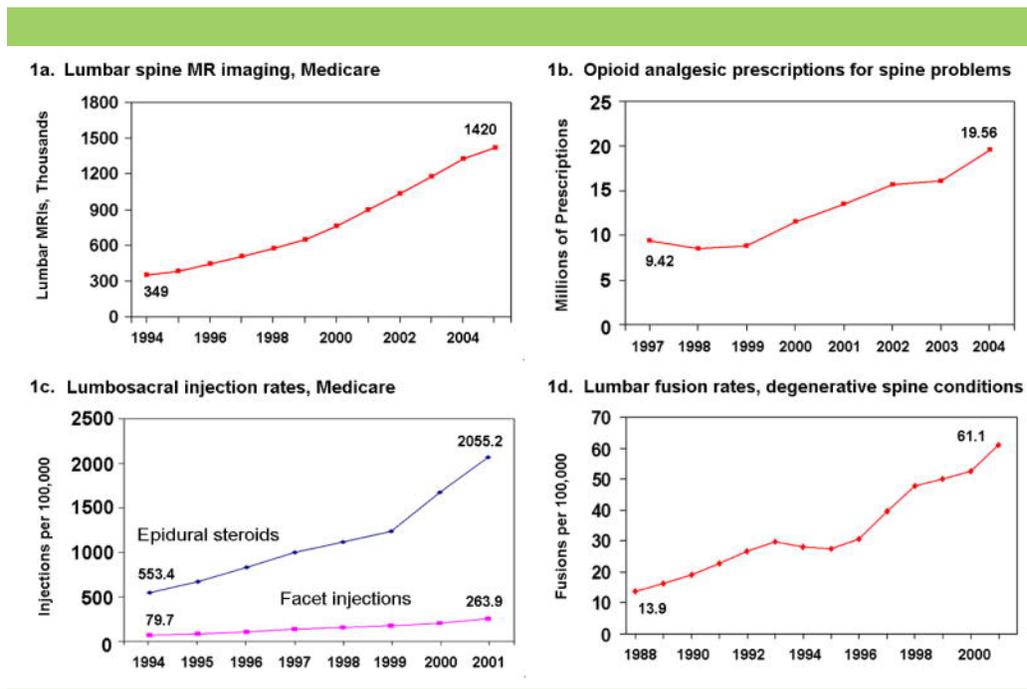
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dramatic 300 percent in the last decade reported (1994-2004). During that period, more diagnoses have been based on detected “abnormalities” with a corresponding 300 percent increase in aggressive and expensive treatment. As a consequence, costs have increased roughly tenfold. A similar expense in delivering invasive treatments solely from these imaging studies in workers’ compensation is creating more large loss claims. While these are the latest identified data comparing imaging to spinal fusion and injection rates, we know that the frequency of MRI/CT imaging of the spine has substantially increased since 2004.

These results are grossly disappointing because outcomes for workers have not improved. In fact, the availability of more precise imaging has meant that workers are disabled longer than historical baselines. Disability rates among working age Americans are higher than at any time in our country’s history, and the problem is getting worse.



(1a.) Lumbar spine magnetic resonance imaging (CPT codes 72148, 72149, 72158), numbers of scans among Medicare beneficiaries, from Part B claims; (1b.) Numbers of opioid prescriptions for spine conditions, national data from the Medical Expenditure Panel Survey, reference 11 (1c.) Rates of lumbosacral injections in the Medicare population, age- and sex-adjusted. Data are from reference 1, adapted with permission. (1d.) Lumbar spine fusion rates for degenerative conditions, age- and sex-adjusted, National Inpatient Sample, from reference 2, reproduced with permission. Reproduced by permission from the American Board of Family Medicine.

Red Herrings

If images showing structural abnormalities have not improved results, it looks like patients and medical professionals are going down the wrong path. Based on the latest science, it now appears that many of these diagnoses are red herrings.

In medicine, a red herring is a diagnosis made based on poor science or inaccurate criteria. False certainty is created, and the search for the actual problem ends. In chronic pain cases, imaging findings are often red herrings. The real source of pain and distress usually lies elsewhere, being generated by soft tissue or by the brain itself, or a combination.

Red herrings and medical over-diagnosis are the main contributors to our declining improvement in managing large loss claims.

Employers are paying an ever-larger percentage of their workers' compensation dollars on physicians' less than effective efforts to relieve pain and distress by focusing treatment on the spine. This is all a direct consequence of false medical certainty about the cause of (and cure for) workers' pain and distress being created by these images of visible changes in the spine.

Medical Overdiagnosis

Medical overdiagnosis occurs when a physician labels a condition more serious than it truly is, attributing a usually benign condition to causes more serious than the scientific data and situation warrant. A clear example is diagnosing a condition that requires major surgery when the patient actually has a problem that needs a less hazardous and more helpful form of care.

The medical literature suggests that in more than 90 percent of common situations, an alleged diagnosis based on MRI "abnormalities" represents medical over-diagnosis.²

There are very valid occasions when MRI's and CT's are appropriate from which abnormalities do correlate to appropriate diagnoses. The American College of Physicians identifies two indications for imaging: severe neurological conditions [bowel/bladder dysfunction, progressive weakness/sensory loss indicating possible significant spinal cord or nerve root compromise], and serious spinal instability [infection, tumor, fracture, or dislocation]. Otherwise, routine use of imaging is "strongly" discouraged and is considered in and of itself, invalid.

FACT A recent British Medical Journal³ article suggested evidence of widespread overdiagnosis. In musculoskeletal conditions, the widespread use of MRIs or other imaging techniques is producing red herrings: normal age-related changes overinterpreted as serious spinal issues requiring aggressive treatments.

FACT The American College of Physicians and the American Pain Society put together an independent panel of experts to systematically review world literature concerning low-back pain. Their findings⁴ noted many asymptomatic volunteers have changes in their spines that look exactly the same on MRI as spines of people with pain.



The panel recommended that many common low-back diagnoses be completely abandoned. These included lumbar disc protrusion, lumbar disc herniation, lumbar spondylosis, and others. The panel advocated that these entities be replaced by the term “nonspecific low-back pain.” This can be interpreted as an acknowledgement that most anatomically based “diagnoses” for pain confer no medical benefit to the patient.

They [primary care physicians] need to send patients for pain management before surgery because no one can diagnose based on MRI.

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FACT There is no evidence chronic opioid therapy benefits most people, and it is a primary contributor to large-loss claims. See Lockton’s White Paper: “Opioids Wreak Havoc on Workers’ Compensation Costs” <http://www.lockton.com/insights/post/opioids-wreak-havoc-on-workers-compensation-costs>. Howe and Sullivan⁵ concluded from their comprehensive literature review of chronic pain and opioid therapy, that chronic pain is highly comorbid with common psychiatric disorders. Unfortunately, they conclude, opioids remain the de facto treatment for most workers with chronic pain.

Root Cause of These Problems

Physicians must have objective, accurate, and valid medical information about the true source of pain when formulating a diagnosis and treatment plan. Payers need it too, in order to be sure they are underwriting appropriate medical care. Far too often today, aggressive medical intervention is undertaken because physicians’ expert opinions are based solely on patients’ subjective pain complaints or imaging studies, neither of which reliably assesses the actual source or extent of pain and distress.

A core precept of evidence-based medicine is to rely on the highest quality evidence available. In fact, those expert opinions are last on a commonly recognized ranking of credible evidence upon which to base treatment.

- ❖ Systematic reviews and meta-analyses
- ❖ Randomized control trials involving multicenter sites followed by single location
- ❖ Cohort studies
- ❖ Case-control studies
- ❖ Case reports and case series
- ❖ **Expert opinion** (not supported by science)

The Neuroscience of Pain Provides an Answer

What can be done about these red herring findings on MRI and the resulting overdiagnosis and fruitless aggressive treatment that leave distressed injured workers worse off with their employers paying the tab? A recent innovation in neuroscience, based on the scientific definition of pain, is making better outcomes possible.

“Pain (is) a sensory emotional experience associated with actual or potential tissue damage or described in terms of such damage.”⁶

The Key Is: pain is an experience in the brain. It is the result of how the brain processes and reacts to sensations coming in from other parts of the body. The experience of pain is created in the brain as a protective mechanism. Unnecessary chronic pain often results when our brain gets it wrong—when it overinterprets incoming signals or gets stuck in an unending loop. This is especially true in musculoskeletal conditions. The pain experience may arise from bones, joints, muscles, or even be generated within the brain itself.

The brain is constantly and automatically assessing every movement and every sensation and deciding what it means. This has an enormous influence on the pain experience. When brain processing goes wrong, chronic pain can frequently result. Unfortunately, physicians may not have been trained to recognize and properly manage the relevant factors which may exist in any of several life domains (now referred to as bio-psycho-socio-economic factors). Physicians often intuitively sense that something else is going on, but continue ordering more imaging tests and looking for a structural explanation.



FACT

In a review of the world’s literature, Chou and Shekelle⁷ found that the anatomy, and a history of prior low-back pain episodes and demographic variables, were not predictive of who will develop disabling back pain. The things that did predict it were: **“maladaptive pain coping behaviors, nonorganic signs, functional impairment, general health status, and presence of psychiatric comorbidities.”**



FACT

A fascinating study⁸ on knee surgery, found that patients who underwent sham (fake) arthroscopic meniscus surgery did just as well as those who actually had the meniscus repaired. Thus, believing that the “problem had been fixed” (even when nothing had changed anatomically) allowed their brains to eliminate the pain.

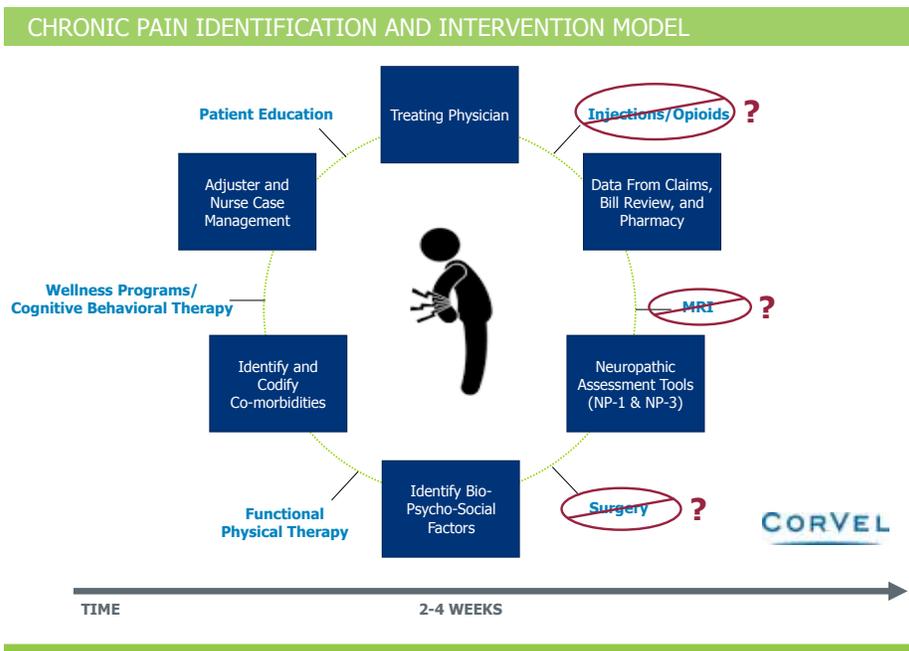
New neuroscience technologies are now being applied to patients with chronic pain. These technologies show changes in brain regions involved in perception and emotional processing; and not in regions dealing with pain sensation. **In one study, 85 percent of all people who developed chronic low back pain had changes in brain regions dealing with reaction processing rather than initial sensation. This suggests that most (not all) of the time, it’s about the brain processing and not about the body damage.⁹**

In cases where surgery and opioids aren't the answer, what will help them?

The authors have been actively following, assessing, and piloting the integration of one of these innovative new models in diagnostic technology that addresses potential chronic pain cases in their various stages of development. We have been able to definitively identify which of several possible sources is creating a specific worker's pain by integrating NeuroPAS Global's NP3 testing methodology along with behavioral medicine assessment in some of our clients' claims processes. The resulting clarity has enabled more workers to be referred for appropriate physical rehabilitation or cognitive behavioral therapy in lieu of surgery and chronic opioids. Introduction of these newer approaches in the later stage of a claim can be difficult unless it is a component of an independent medical exam (IME) evaluation. However, where it has been permitted by treating doctors, the results have been impressive.

Some insurance carriers and TPAs are working toward or are starting to pilot these technologies earlier in the life of a claim. In one TPA model for non-subscriber programs in Texas and Oklahoma, they will integrate several promising innovations including the NeuroPAS NP1 and NP3 assessments into their medical management process. The goal is to improve outcomes for workers suffering from chronic pain and nip potential high-cost claims in the bud.

Where tests indicate an emotional or sociodynamic overlay to the cause of pain, the claimant should be immediately referred to a designated mental health professional who can mitigate common non-medical issues such as health illiteracy, false beliefs, weak coping or self-care skills, as well as worry, fear, and distrust that often lead to chronic pain and its poor outcomes.



In the example “employee-centered” model, the nurse at the front-end of targeted claims will identify within the first 2-4 weeks early signs of trouble due to bio-psycho-socio-economic factors. If recovery stalls and chronic opioid therapy, spinal injections, or surgery are even anticipated, the underlying diagnosis may be reassessed. Workers with a confirmed physical cause of pain may be appropriate surgical candidates. As has been demonstrated earlier, data suggest that in a high percentage of cases, the underlying diagnosis is inaccurate because the source of the current pain may be less physical and more brain-derived (central sensitization). For these workers, surgery is unlikely to have a good result, and which will escalate both costs and the risk of a bad outcome.

In conclusion, we want to accelerate the speed at which neuroscience innovation is percolating through the medical community and the workers' compensation system. From a claims perspective, we believe that intervening early in the claim (2-4 weeks) by engaging physicians to comply with medical treatment guidelines, diagnose patients complaints based more on evidence-based medicine and less on imaging studies where not recommended, will make a substantial impact on the 5 percent of workers' claims and their 80 percent of costs. Most importantly, for working Americans, it will avoid many cases of unnecessary disability. We recommend that adjusters proactively seek objective evaluations prior to approving all aggressive treatment plans for spine and major joint chronic pain because of the risk of red herring MRI results and medical overdiagnosis. In order to head off claims destined for delayed recovery (and high cost), we also recommend that adjusters take steps to detect and identify potentially mitigatable bio-psycho-socio-economic factors, then employ simple and low cost methods to address them.

References

- ¹Joint letter to the Director, Workers' Compensation Studies, National Institute for Occupational Safety and Health (NIOSH), from the president of the American College of Occupational and Environmental Medicine and the Medical Director, Washington Department of Labor and Industries, February 9, 2015
- ²Carragee E, et al. Are first-time episodes or serious LBP associated with new MRI findings? *Spine J*, 2006 Nov-Dec;6(6):624-35. Epub 2006 Oct 11.
- ³Moynihan R, Doust J, Henry D. Preventing overdiagnosis: how to stop harming the healthy. *BMJ* 2012; 344e3502
- ⁴Chou R1, Qaseem A, Snow V, Casey D, Cross JT Jr, Shekelle P, Owens DK; Clinical Efficacy Assessment Subcommittee of the American College of Physicians; American College of Physicians; American Pain Society Low Back Pain Guidelines Panel. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. *Ann Intern Med*. 2007 Oct 2;147(7):478-91.
- ⁵Howe CQ, Sullivan MD. The missing 'P' in pain management: how the current opioid epidemic highlights the need for psychiatric services in chronic pain care. *Gen Hosp Psychiatry*. 2014 Jan-Feb; 36(1):99-104.
- ⁶http://www.iasp-pain.org/AM/Template.cfm?Section=General_Resource_Links&Template=/CM/HTMLDisplay.cfm&ContentID=3058
- ⁷Chou R, Shekelle P. Will this patient develop persistent disabling low back pain? *JAMA*. 2010 Apr 7; 303(13):1295-302. Doi: 10.1001/jama.2010.344
- ⁸Raine Sihvonen, M.D., Mika Paavola, M.D., Ph.D., Antti Malmivaara, M.D., Ph.D., Ari Itälä, M.D., Ph.D., Antti Joukainen, M.D., Ph.D., Heikki Nurmi, M.D., Juha Kalske, M.D., and Teppo L.N. Järvinen, M.D., Ph.D. for the Finnish Degenerative Meniscal Lesion Study (FIDELITY) Group. *N Engl J Med* 2013; 369:2515-2524 December 26, 2013 DOI: 10.1056/NEJMoa1305189.
- ⁹Baliki MN, Bogdan P, Souraya T, Hermann KM, Huang L, Schnitzer TJ, Fields HL, Apkarian AV. Corticostriatal functional connectivity predicts transition to chronic back pain. *Nature Neuroscience*. PUBLISHED ONLINE. 01 July 2012



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