PAINWEEK®

Back to Basics: 10 Facts Everyone Should Know About Back Pain

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Disclosure

- Nothing to disclose

Learning Objectives

- Learners will identify common myths associated with low back pain.
- Learners will recite evidence-based replacements for commonly held myths about low back pain.
- Participants will review new key messages comprised of optimistic and non-iatrogenic information when teaching patients about back pain.
- Participants will list strategies for enhancing their approach to patient education on the topic of low back pain.

Low Back Pain

Why does everyone need to know these facts?

Low Back Pain (LBP)

- Low back pain (LBP) is the leading cause of disability worldwide, and is often associated with costly, ineffective, and sometimes harmful care.
- What drives disability and poor care?
- Unhelpful beliefs about LBP are associated with greater levels of pain, disability, work absenteeism, medication, use and healthcare seeking.
- Unhelpful beliefs are common in people with and without LBP, and can be reinforced by the media, industry groups, and well-meaning clinicians.

Staggering Numbers

- From 1996 to 2016, total healthcare spending increased from an estimated $1.4 trillion to an estimated $3.1 trillion
- Low back and neck pain had the highest amount of healthcare spending with an estimated $134.5 billion
- That means 4.4% of **ALL HEALTHCARE SPENDING** was on back and neck pain

Dieleman JL, Cao J, Chapin A, et al. US Health Care Spending by Payer and Health Condition, 1996-2016. JAMA. 2020;323(9):863-884.

Takeaway: Low back pain is expensive and debilitating

Let’s learn more about it →

Myth 1: LBP is Usually a Serious Medical Condition

- **Fact 1: Persistent back pain can be scary, but it's rarely dangerous**

- Persistent back pain can certainly be distressing and disabling, but its rarely life threatening and you are very unlikely to end up in a wheelchair.

Low Back Pain Break Down: What do the Numbers Say?

- Experts estimate that up to 80-90% of the population will experience back pain at some time in their lives.

- Roughly 90% of all low back pain is “non-specific” in nature

- Deyo and Weinstein 2001 estimated that of patients with low back pain in primary care about:
  - 4% would have a compression fracture
  - 3% would have spinal stenosis
  - 2% would have visceral disease
  - 0.7% a tumor or metastasis
  - 0.01% an infection

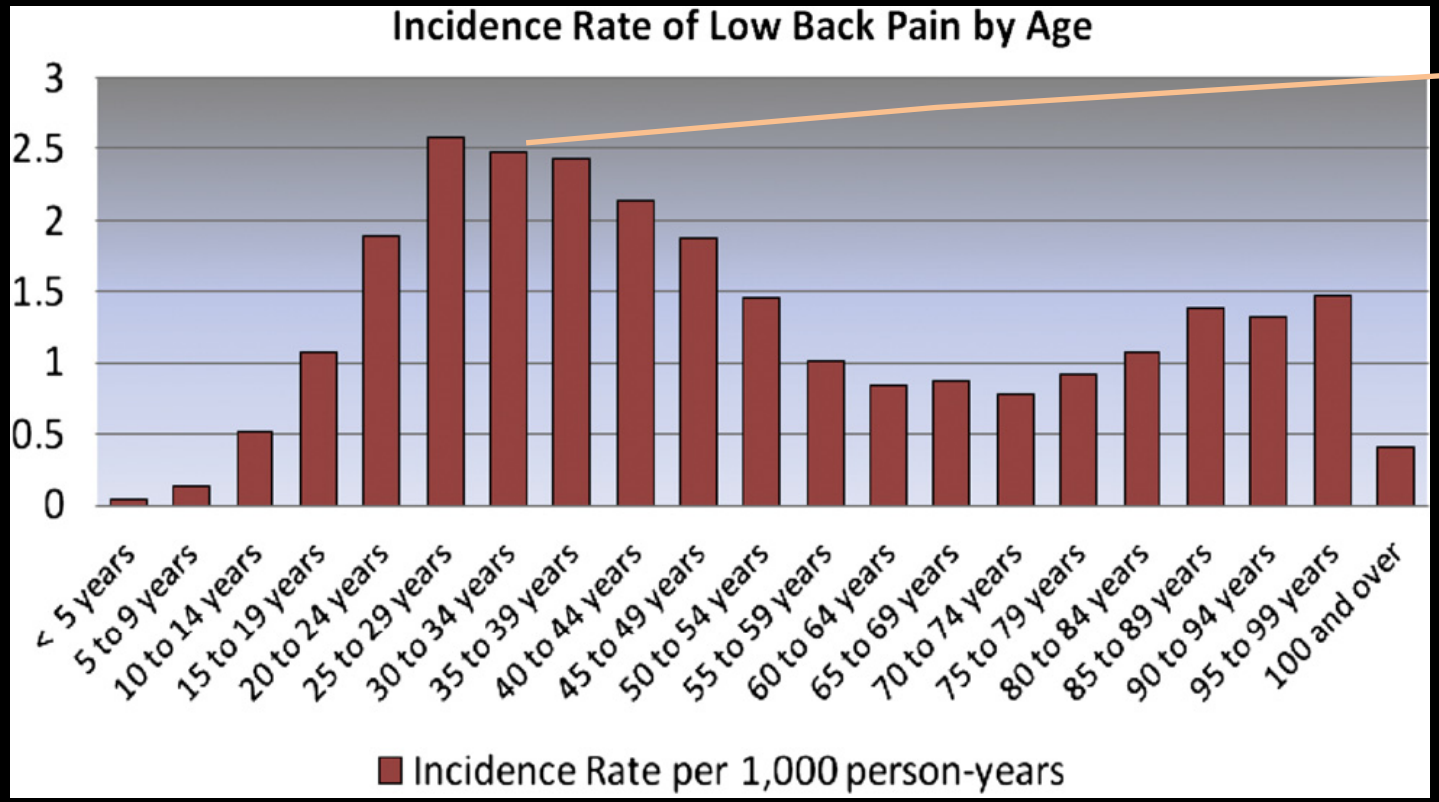
Hartvigsen J et al. Low Back Pain Series: What Low Back Pain Is and Why We Need to Pay Attention. Lancet, June 2018; Volume 391, Issue 10137; p2356-2367

Myth 2: LBP Will Become Persistent in Later Life

- **Fact 2: Getting older is not a cause of back pain**

- Although it is a common belief and concern that getting older causes or worsens back pain, research does not support this, and evidence-based treatments can help at any age!

LBP Through the Lifespan



Why????

Waterman BR, Belmont PJ, Schoenfeld AJ. Low back pain in the United States: incidence and risk factors for presentation in the emergency setting. Spine J. 2012;12(1):63-70.

The “Sandwich Generation”

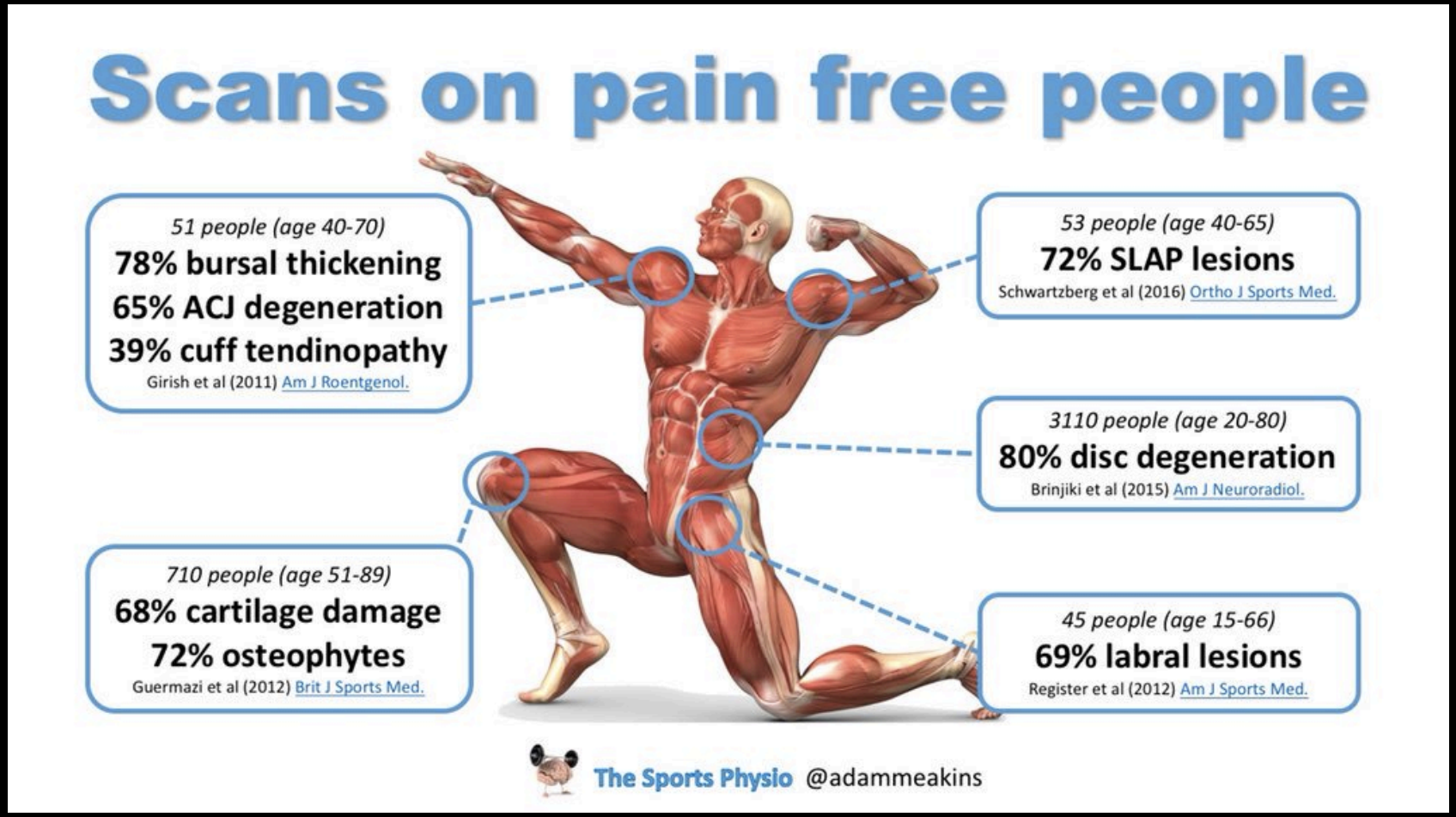
- Taking care of mom and dad
- Taking care of Jack and Jill
- Not sleeping enough/fatigue
- Stress at work/long work hours
- Not enough time for regular physical activity
- Sedentary job
- Financial pressures
- Weekend warrior

Myth 3:
Persistent LBP is Always Related to Tissue Damage

- **Fact 3: Persistent back pain is rarely associated with serious tissue damage**

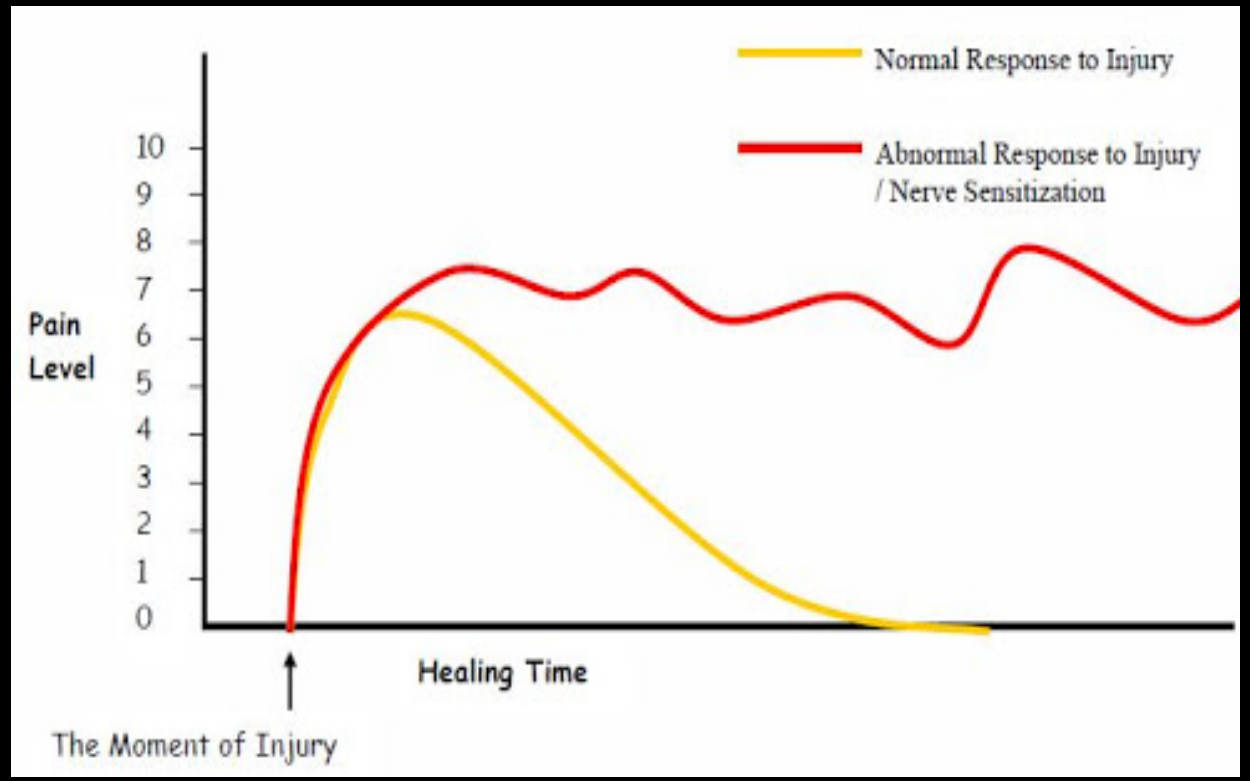
- Backs are very strong! If you have an injury, most tissue healing occurs within 3 months. If pain persists longer is likely means there are other contributing causes such as stress, inactivity, fatigue, or unaccustomed activity

Tissue Changes ≠ Pain



Tissue Changes ≠ Pain

- Central sensitization?
- Peripheral sensitization?
- Cortical reorganization?
- Learned behavior?
- Immune and endocrine changes?



Myth 4:
Scans Are Always Needed to Detect the Cause of LBP

- **Fact 4: Scans rarely show the cause of back pain**

- Scans can be helpful in a minority of people; however, imaging findings have been shown to have a very poor correlation to presence or severity of pain.

Imaging and LBP

Age-specific prevalence estimates of degenerative spine imaging findings in asymptomatic patients.

	AGE (yr)						
IMAGING FINDING	20	30	40	50	60	70	80
Disk degeneration	37%	52%	68%	80%	88%	93%	96%
Disk signal loss	17%	33%	54%	73%	86%	94%	97%
Disk height loss	24%	34%	45%	56%	67%	76%	84%
Disk bulge	30%	40%	50%	60%	69%	77%	84%
Disk protrusion	29%	31%	33%	36%	38%	40%	43%
Annular fissure	19%	20%	22%	23%	25%	27%	29%
Facet degeneration	04%	09%	18%	32%	50%	69%	83%
Spondylolisthesis	03%	05%	08%	14%	23%	35%	50%

Brinjikji W, Luetmer PH, Comstock B, et al. Systematic literature review of imaging features of spinal degeneration in asymptomatic populations. AJNR Am J Neuroradiol. 2015;36(4):811-6.

What Does the American Academy of Family Physicians Say?

Choosing Wisely®

Imaging for Low Back Pain

Recommendation

Don't do imaging for low back pain within the first six weeks, unless red flags are present. (Red flags include, but are not limited to, severe or progressive neurological deficits or when serious underlying conditions such as osteomyelitis are suspected.)

Low back pain is the fifth most common reason for all physician visits. Imaging of the lower spine before six weeks does not improve outcomes, but does increase costs.

Sources: Agency for Health Care Research and Policy (AHCPR), Cochrane Reviews

Myth 5: Pain Related to Exercise and Movement is Always a Warning that Harm is Being Done to the Spine and a Signal to Stop or Modify Activity

- **Fact 5: Pain with movement or exercise does not mean you are doing damage or harm**

- When pain persists it is very common for the surrounding areas around the spine to become sensitive to movement and touch! The pain during movement reflects the sensitivity of these structures, not how “damaged” you are.

Sensitive vs Broken/Damaged

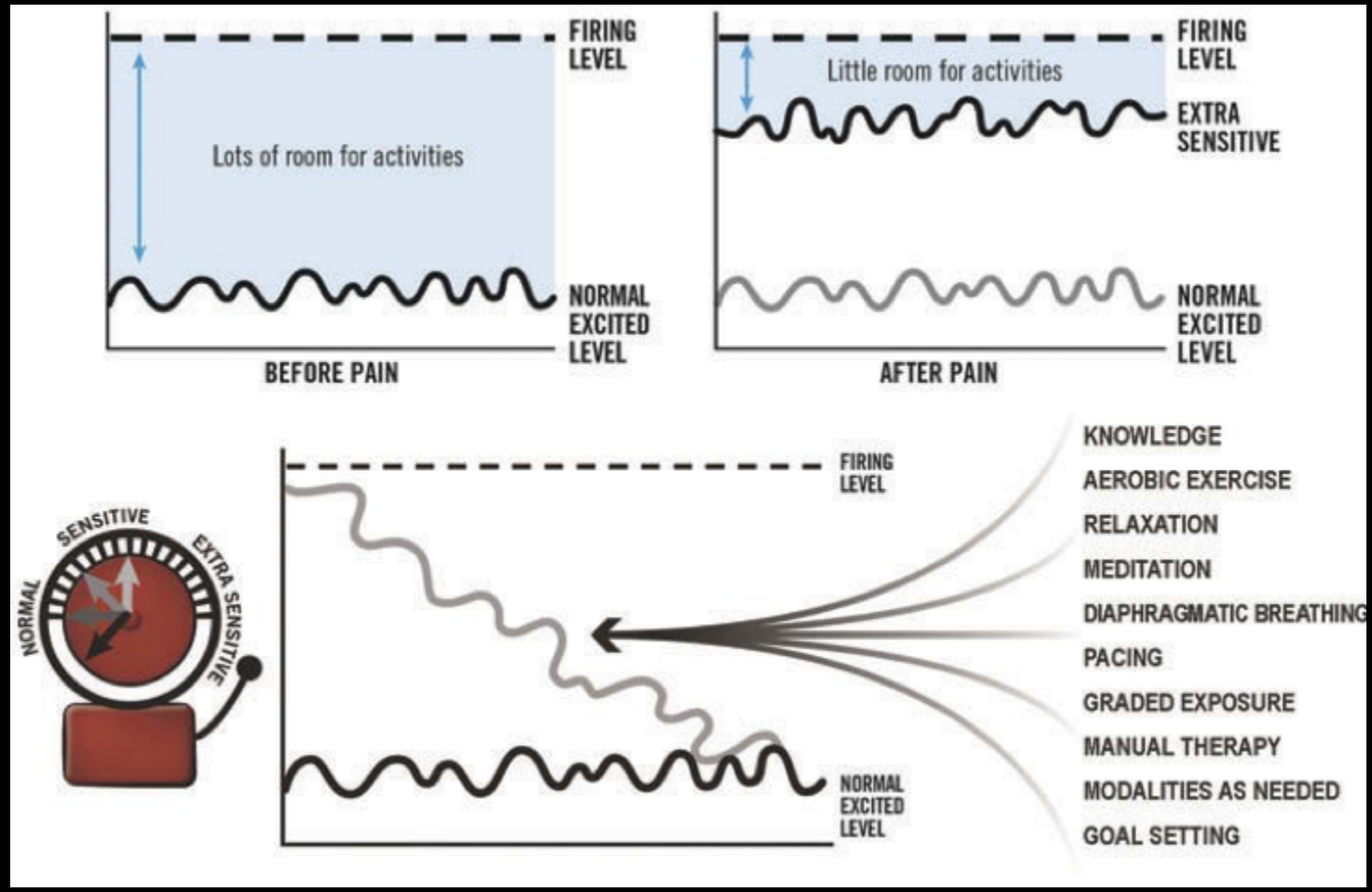


Image credit:
Adriaan Louw

Annals of Internal Medicine®

Recommendation 2:

For patients with chronic low back pain, clinicians and patients should initially select nonpharmacologic treatment with exercise, multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction (moderate-quality evidence), tai chi, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, or spinal manipulation (low-quality evidence). (Grade: strong recommendation)

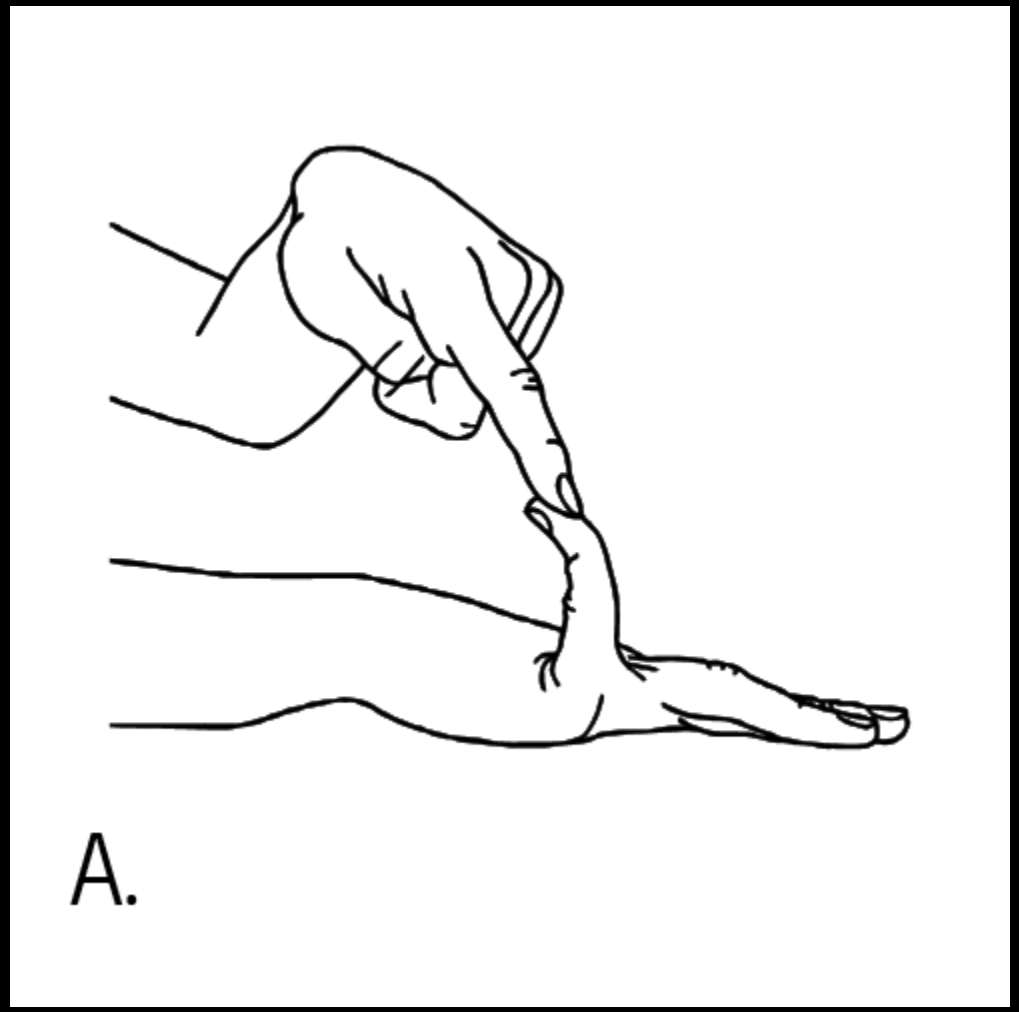
Qaseem A, Wilt TJ, Mclean RM, Forciea MA. Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians. Ann Intern Med. 2017;166(7):514-530.

Myth 6: LBP is Caused by Poor Posture When Sitting, Standing, and Lifting

- **Fact 6: Back pain is not caused by "poor posture"**

- A variety of postures and positions are safe and healthy for the back. Any sustained position can become uncomfortable, but this doesn't mean it is bad or damaging!

Finger Bend Thought Experiment



Time vs position

Movement Variability

Myth 7: LBP is Caused by Weak 'Core' Muscles and Having a Strong Core Protects Against Future LBP

- **Fact 7: Back pain is not caused by a "weak core"**
- "Weak core" muscles do not cause back pain. In fact, research has shown that people with back pain much more often tense their core muscles much more tightly than average.
- Learning to relax the core in everyday activities can actually be very helpful!

Core Strengthening Works…
But So Does Everything Else

RESEARCH ARTICLE Open Access

An update of stabilisation exercises for low back pain: a systematic review with meta-analysis

Benjamin E Smith[1*], Chris Littlewood[2] and Stephen May[3]

Abstract

Background: Non-specific low back pain (NSLBP) is a large and costly problem. It has a lifetime prevalence of 80% and results in high levels of healthcare cost. It is a major cause for long term sickness amongst the workforce and is associated with high levels of fear avoidance and kinesiophobia. Stabilisation (or 'core stability') exercises have been suggested to reduce symptoms of pain and disability and form an effective treatment. Despite it being the most commonly used form of physiotherapy treatment within the UK there is a lack of positive evidence to support its use. The aims of this systematic review update is to investigate the effectiveness of stabilisation exercises for the treatment of NSLBP, and compare any effectiveness to other forms of exercise.

Methods: A systematic review published in 2008 was updated with a search of PubMed, CINAHL, AMED, Pedro and The Cochrane Library, October 2006 to October 2013. Two authors independently selected studies, and two authors independently extracted the data. Methodological quality was evaluated using the PEDro scale. Meta-analysis was carried out when appropriate.

Results: 29 studies were included: 22 studies ($n = 2,258$) provided post treatment effect on pain and 24 studies ($n = 2,359$) provided post treatment effect on disability. Pain and disability scores were transformed to a 0 to 100 scale. Meta-analysis showed significant benefit for stabilisation exercises versus any alternative treatment or control for long term pain and disability with mean difference of -6.39 (95% CI -10.14 to -2.65) and -3.92 (95% CI -7.25 to -0.59) respectively. The difference between groups was clinically insignificant. When compared with alternative forms of exercise, there was no statistical or clinically significant difference. Mean difference for pain was -3.06 (95% CI -6.74 to 0.63) and disability -1.89 (95% CI -5.10 to 1.33).

Conclusion: There is strong evidence stabilisation exercises are not more effective than any other form of active exercise in the long term. The low levels of heterogeneity and large number of high methodological quality of available studies, at long term follow-up, strengthen our current findings, and further research is unlikely to considerably alter this conclusion.

Myth 8: Repeated Spinal Loading Results in 'Wear and Tear' and Tissue Damage

- **Fact 8: Backs do not wear out with every day loading and activity**

- The same way lifting weights makes muscles stronger, moving and loading makes the back stronger and healthier. Twisting, bending, and lifting are healthy when started gradually and progressed over time!

The body is not a machine!!!

Specific

Adaptation to

Imposed

Demands

Myth 9: Pain Flare-ups Are a Sign of Tissue Damage and Require Rest

- **Fact 9: Pain flare ups DO NOT mean you are damaging yourself**

- Pain flare ups can be very scary, but they are usually not related to any significant tissue damage. Research has shown much more common triggers such as stress, poor sleep, tension, worries, low mood, inactivity, or unaccustomed activity.

“Your Cup Runneth Over”

Myth 10: Treatments Such as Strong Medications, Injections, and Surgery Are Effective, And Necessary, to Treat LBP

- **Fact 10: Injections, surgery, and strong drugs are not usually a cure or helpful choices**

- Injections, surgery, and medications like opioids have not been shown to be helpful in the long term for persistent back pain and they come with very real and significant risks and unhelpful side effects.

Spinal Fusion for Back Pain?

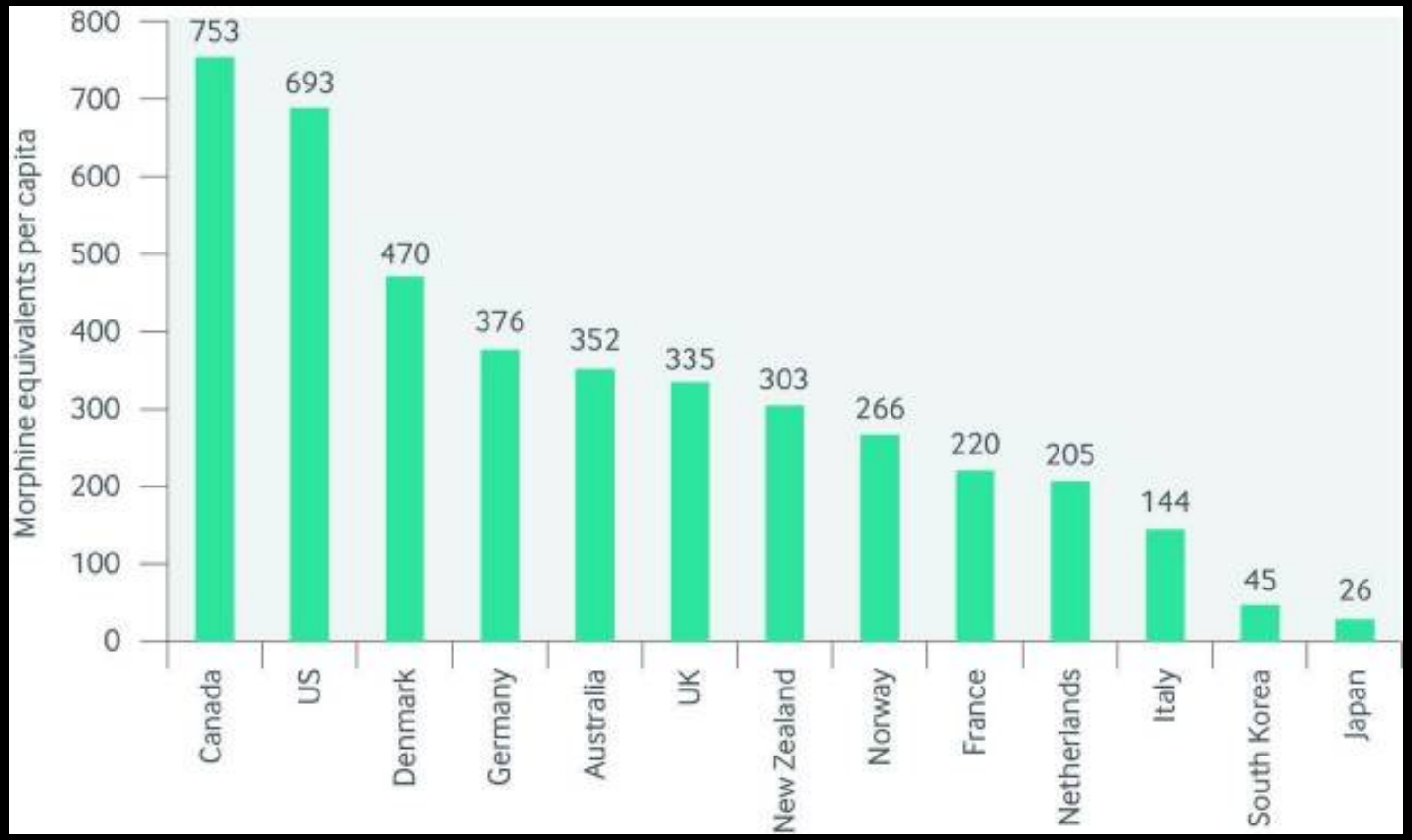
Review > Spine J. 2013 Feb;13(2):99-109. doi: 10.1016/j.spinee.2012.10.001. Epub 2012 Nov 3.

Spinal fusion for chronic low back pain: systematic review on the accuracy of tests for patient selection

Paul C Willems [1], J Bart Staal, Geert H I M Walenkamp, Rob A de Bie

Conclusions: No subset of patients with chronic LBP could be identified for whom spinal fusion is a predictable and effective treatment. Best evidence does not support the use of current tests for patient selection in clinical practice.

Opioid Prescription



Deyo RA, Von korff M, Duhrkoop D. Opioids for low back pain. BMJ. 2015;350:g6380.

Opioid Prescription

- There is no valid evidence that long term opioid usage is effective for management of low back pain

- Further, there is evidence that it impairs mental processes and reduced pain related self-efficacy

Deyo RA, Von korff M, Duhrkoop D. Opioids for low back pain. BMJ. 2015;350:g6380.

Wrapping Up

- Low back pain is VERY common
- It rarely has a serious cause
- It costs us A LOT of money and gets overmedicalized
- Overmedicalization often leads to worse patient outcomes
- Our beliefs about it, on average, are not very accurate
- Medical professionals have a lot of power to influence beliefs
- We need to update our narratives to patients so they update their own narratives
- We can dramatically lower the rates of overmedicalization and overspending related to back pain

References

Deyo RA, Von korff M, Duhrkoop D. Opioids for low back pain. BMJ. 2015;350:g6380.

Dieleman JL, Cao J, Chapin A, et al. US Health Care Spending by Payer and Health Condition, 1996-2016. JAMA. 2020;323(9):863-884.

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