

# Back to basics: 10 facts every person should know about back pain

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Low back pain (LBP) is the leading cause of disability worldwide, and is often associated with costly, ineffective and sometimes harmful care.<sup>1</sup> What drives disability and poor care?<sup>2</sup> Unhelpful beliefs about LBP are associated with greater levels of pain, disability, work absenteeism, medication use and healthcare seeking.<sup>3</sup> Unhelpful beliefs are common in people with and without LBP, and can be reinforced by the media, industry groups and well-meaning clinicians.

In this editorial and infographic, we identify 10 common unhelpful beliefs about LBP and outline how they may influence behavioural and psychological responses to pain. We counter with 10 important facts about LBP, calling on clinicians to incorporate these into their interactions with patients. The infographic is designed for the public use ([figure 1](#)).

## TEN UNHELPFUL LBP BELIEFS

Unhelpful LBP beliefs are common, culturally endorsed and not supported by evidence.<sup>2,4,5</sup>

- ▶ Myth 1: LBP is usually a serious medical condition.
- ▶ Myth 2: LBP will become persistent and deteriorate in later life.
- ▶ Myth 3: Persistent LBP is always related to tissue damage.
- ▶ Myth 4: Scans are always needed to detect the cause of LBP.
- ▶ 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.

- ▶ Myth 6: LBP is caused by poor posture when sitting, standing and lifting.
- ▶ Myth 7: LBP is caused by weak 'core' muscles and having a strong core protects against future LBP.
- ▶ Myth 8: Repeated spinal loading results in 'wear and tear' and tissue damage.
- ▶ Myth 9: Pain flare-ups are a sign of tissue damage and require rest.
- ▶ Myth 10: Treatments such as strong medications, injections and surgery are effective, and necessary, to treat LBP.

## BEHAVIOURAL RESPONSES TO UNHELPFUL BELIEFS

Unhelpful beliefs may lead to unhelpful behaviours such as *avoiding*: normal spine postures (ie, slouch sitting), movement (ie, flexing the spine) and meaningful activities (ie, spine loading, physical activity, social activities, and activities of daily living and or work). Unhelpful beliefs may also lead to unhelpful *protective behaviours* such as muscle guarding, bracing 'core' muscles and slow and cautious movement. Further, they may lead to a person to opt for more *biomedical and/or invasive interventions* in an attempt to ease symptoms (pharmacology, passive therapies, injections), and fix proposed postural faults (eg, postural exercises) or allegedly damaged structures (ie, stem cell treatments, surgery).<sup>4</sup>

## PSYCHOLOGICAL RESPONSES TO UNHELPFUL BELIEFS

Unhelpful LBP beliefs may contribute to a negative mindset regarding LBP, leading to pain vigilance, fear of engaging in valued activities and worries for the future. Coupled with a lack of self-efficacy and adaptive skills to effectively self-manage, these factors can impair mental health (eg, cause stress, anxiety, depression).<sup>6</sup>

## TEN HELPFUL FACTS ABOUT LBP

A positive mindset regarding LBP is associated with lower levels of pain, disability and healthcare seeking.<sup>7</sup> Once red flags and serious pathology are excluded, evidence supports that:

- ▶ Fact 1: LBP is not a serious life-threatening medical condition.
- ▶ Fact 2: Most episodes of LBP improve and LBP does not get worse as we age.
- ▶ Fact 3: A negative mindset, fear-avoidance behaviour, negative recovery expectations, and poor pain coping behaviours are more strongly associated with persistent pain than is tissue damage.
- ▶ Fact 4: Scans do not determine prognosis of the current episode of LBP, the likelihood of future LBP disability, and do not improve LBP clinical outcomes.
- ▶ Fact 5: Graduated exercise and movement in all directions is safe and healthy for the spine.
- ▶ Fact 6: Spine posture during sitting, standing and lifting does not predict LBP or its persistence.
- ▶ Fact 7: A weak core does not cause LBP, and some people with LBP tend to overtense their 'core' muscles. While it is good to keep the trunk muscles strong, it is also helpful to relax them when they aren't needed.
- ▶ Fact 8: Spine movement and loading is safe and builds structural resilience when it is graded.
- ▶ Fact 9: Pain flare-ups are more related to changes in activity, stress and mood rather than structural damage.
- ▶ Fact 10: Effective care for LBP is relatively cheap and safe. This includes: education that is patient-centred and fosters a positive mindset, and coaching people to optimise their physical and mental health (such as engaging in physical activity and exercise, social activities, healthy sleep habits and body weight, and remaining in employment).<sup>8</sup>

## WHERE TO FROM HERE?

We clinicians must commit to providing people with evidence-informed education and care for LBP. Educational resources exist to support this process (eg, [www.lowbackpaincommunication.com](http://www.lowbackpaincommunication.com), <https://www.youtube.com/watch?v=dISQLUE4brQ>). Exploring patients' concerns, fears and beliefs about LBP provides an opportunity for constructive discussion underpinned by motivational techniques. Coaching people to confidently engage with variable postures, movement, graded loading, physical activity, healthy living, social and work engagement, can build a positive mindset regarding LBP. This may help reduce distress and build self-efficacy for people to better self-manage, and enable patients to make better-informed decisions about their care. We clinicians have a collective responsibility to educate patients, public, politicians,

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# BACK FACTS

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## 1. Persistent back pain can be scary, but it's rarely dangerous

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



## 2. Getting older is not a cause of back pain

Although it is a widespread 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.

## 3. Persistent back pain is rarely associated with serious tissue damage

Backs are strong. If you have had an injury, tissue healing occurs within three months, so if pain persists past this time, it usually means there are other contributing factors. A lot of back pain begins with no injury or with simple, everyday movement. These occasions may relate to stress, tension, fatigue, inactivity or unaccustomed activity which make the back sensitive to movement and loading.



## 4. Scans rarely show the cause of back pain

Scans are only helpful in a minority of people. Lots of scary-sounding things can be reported on scans such as disc bulges, degeneration, protrusions, arthritis, etc. Unfortunately, the reports don't say that these findings are very common in people without back pain and that they don't predict how much pain you feel or how disabled you are. Scans can also change, and most disc prolapses shrink over time.

## 5. Pain with exercise and movement doesn't mean you are doing harm

When pain persists, it is common that the spine and surrounding muscles become really sensitive to touch and movement. The pain you feel during movement and activities reflects how sensitive your structures are – not how damaged you are. So it's safe and normal to feel some pain when you start to move and exercise. This usually settles down with time as you get more active. In fact, exercise and movement are one of the most effective ways to help treat back pain.



## 6. Back pain is not caused by poor posture

How we sit, stand and bend does not cause back pain even though these activities may be painful. A variety of postures are healthy for the back. It is safe to relax during everyday tasks such as sitting, bending and lifting with a round back – in fact, it's more efficient!



## 7. Back pain is not caused by a 'weak core'

Weak 'core' muscles do not cause back pain, in fact people with back pain often tense their 'core' muscles as a protective response. This is like clenching your fist after you've sprained your wrist. Being strong is important when you need the muscles to switch on, but being tense all the time isn't helpful. Learning to relax the 'core' muscles during everyday tasks can be helpful.

## 8. Backs do not wear out with everyday loading and bending

The same way lifting weights makes muscles stronger, moving and loading make the back stronger and healthier. So activities, like running, twisting, bending and lifting, are safe if you start gradually and practice regularly.



## 9. Pain flare-ups don't mean you are damaging yourself

While pain flare-ups can be very painful and scary, they are not usually related to tissue damage. The common triggers are things like poor sleep, stress, tension, worries, low mood, inactivity or unaccustomed activity. Controlling these factors can help prevent exacerbations, and if you have a pain flare-up, instead of treating it like an injury, try to stay calm, relax and keep moving!

## 10. Injections, surgery and strong drugs usually aren't a cure

Spine injections, surgery and strong drugs like opioids aren't very effective for persistent back pain in the long term. They come with risks and can have unhelpful side effects. Finding low-risk ways to put you in control of your pain is the key.



This infographic is a summary only. Please consult the full text for clarification and supporting references.  
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Figure 1 What every person should know about low back pain.

funders, industry, policy makers and other clinicians to help reduce the disability and cost burden in society.<sup>5</sup>

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**REFERENCES**

1 Foster NE, Anema JR, Cherkin D, et al. Prevention and treatment of low back pain: evidence, challenges, and promising directions. *The Lancet* 2018;**391**:2368–83.

- 2 Buchbinder R, van Tulder M, Öberg B, *et al.* Low back pain: a call for action. *The Lancet* 2018;391:2384–8.
- 3 Main CJ, Foster N, Buchbinder R. How important are back pain beliefs and expectations for satisfactory recovery from back pain? *Best Pract Res Clin Rheumatol* 2010;24:205–17.
- 4 O'Sullivan PB, Caneiro JP, O'Keefe M, *et al.* Cognitive functional therapy: an integrated behavioral approach for the targeted management of disabling low back pain. *Phys Ther* 2018;98:408–23.
- 5 O'Keefe M, Maher CG, Stanton TR, *et al.* Mass media campaigns are needed to counter misconceptions about back pain and promote higher value care. *Br J Sports Med* 2019;53:1261–2.
- 6 Bunzli S, Smith A, Schütze R, *et al.* Making sense of low back pain and pain-related fear. *J Orthop Sports Phys Ther* 2017;47:628–36.
- 7 Beales D, Smith A, O'Sullivan P, *et al.* Back pain beliefs are related to the impact of low back pain in baby boomers in the Busselton healthy aging study. *Phys Ther* 2015;95:180–9.
- 8 Lin I, Wiles L, Waller R, *et al.* What does best practice care for musculoskeletal pain look like? eleven consistent recommendations from high-quality clinical practice guidelines: systematic review. *Br J Sports Med* 2020;54:79–86.