

MYTHBUSTING: 10 scientific facts about back pain

Boorloo (Perth) – 16th March 2024
Western Australian Rural Health Conference

Dr Kevin Wernli, BSc, PhD (low back pain)
Physiotherapist | Researcher | Co-founder & COO
Co-founder and former co-host/producer of the 'Empowered Beyond Pain' podcast
Co-founder & COO www.matilda.health



Acknowledgement of Country

I respectfully acknowledge the Whadjuk people, the traditional owners of the land on which we are learning today.



Your postcode is (sadly) a big determinant of your health.

Pain (as with most health conditions) disproportionately affects people in rural and remote areas.

Big part of the motivation to try and translate contemporary knowledge.



-ground

The most disabling health condition globally

More costly than cancer and diabetes combined

Beliefs that the back is easy to harm and hard to heal.

Unhelpful belief that the spine is more vulnerable than the rest of the body



Acknowledgements

Professor Peter O'Sullivan & Dr JP Caneiro – Co-hosts of podcast – Directors at Body Logic Physio



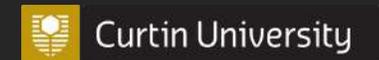
Co-authors of paper : *Back to Basics: 10 scientific facts every person should know about back pain*

Peter O'Sullivan, JP Caneiro, Kieran O'Sullivan, Ivan Lin, Samantha Bunzli, Mary O'Keeffe



PhD Supervisors:

A. Prof. Peter Kent, Prof. Peter O'Sullivan, Prof. Anne Smith, A. Prof. Amity Campbell



Caveats

Might challenge beliefs – a lot of this info is contrary to commonly held beliefs, but it is backed by science.

Knowledge is evolving.

This talk refers more to chronic low back pain (>3 months), and less to acute pain from a traumatic injury.

Back facts paper – the origins



Teamwork:

Peter B O'Sullivan^{1,2}, JP Caneiro^{1,2}, Kieran O'Sullivan^{3,4},
Ivan Lin⁵, Samantha Bunzli⁶, Kevin Wernli^{1,2}, Mary O'Keeffe⁷

1. School of Physiotherapy and Exercise Science, Curtin University, Perth, Western Australia, Australia

2. Body Logic Physiotherapy, Shenton Park, Western Australia, Australia

3. School of Allied Health, University of Limerick, Limerick, Ireland

4. Ageing research centre health research institute, Health Research Institute, University of Limerick, Limerick, Ireland

5. WA Centre for Rural Health, University of Western Australia, Geraldton, Western Australia, Australia

6. Department of Surgery, St Vincent's Hospital, The University of Melbourne, Melbourne, Victoria, Australia

7. School of Public Health, Faculty of Medicine and Health, University of Sydney, Sydney, New South Wales, Australia

- ~90 people treated for low back pain.
- Common myths that kept tripping them up and keeping them in a cycle of pain, disability, depression.
- Many of these people saw large transformations.
- These were the common 'facts' ('closer to the truths') that helped them move beyond their pain.

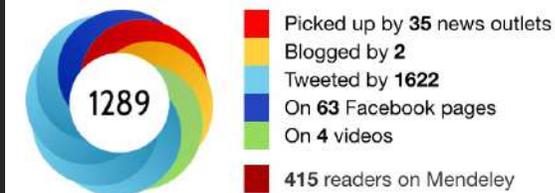
Back to basics: 10 facts every person should know about back pain

Peter B O'Sullivan^{1, 2}, JP Caneiro^{1, 2}, Kieran O'Sullivan^{3, 4},

Ivan Lin⁵, Samantha Bunzli⁶, Kevin Wernli^{1, 2}, Mary O'Keeffe⁷

Correspondence to Professor Peter B O'Sullivan, School of Physiotherapy and Exercise Science, Curtin University, Perth, WA 6102, Australia;

Statistics from Altmetric.com



In the top 5% of all research outputs scored by Altmetric

Among the highest-scoring outputs from this source (#27 of 5,762)

Back facts - infographic

- Co-created with input from patient voices
- Great as a patient handout

Links to these at end of slideshow

BACK FACTS

Twitter: PeteOSullivanPT, JPCaneiro, KieranOSull, Bunzli_S, KWernliPhysio, MaryOKeeffe007

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.



Back facts - videos

Main video



10 facts presented by people across the world.

- Patient advocates
- People who recovered or moved beyond their pain holding them back.

Stories behind the facts video



Selected 6 of those 10 people to share their recovery stories.

Links to these at end of slideshow

Back facts - podcast



Episode 4 – Back facts and origin story with Prof Peter O’Sullivan and Dr JP Caneiro

Episode 5 – Stories behind the back facts

Episode 11-20 – Detailed discussions with authors, world-leading researchers, surgeons, and patient stories.

The 10 back facts – Number 1

MYTH: LBP is usually a serious medical condition.



The 10 back facts – Number 1

MYTH: LBP is usually a serious medical condition.

'If you're worried: have you had a significant injury, like a trauma or a sudden loading event? do you have a fever or other systemic illness?'

'If you get a scan, be reassured, you will have stuff on a scan'

'If its acute pain, be reassured it will get better within a couple of weeks if you do the right things'

'Keep moving, keep active, use a heat-pack, relax, gently get moving, have a positive mindset it will get better'



Empowered Beyond Pain
podcast

Co-hosted by:
Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro



Episode 11: Low back pain fact 1: scary, but rarely dangerous



Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

The 10 back facts – Number 2

MYTH: LBP will become persistent and deteriorate in later life.



FACT ▲

The 10 back facts – Number 2

MYTH: LBP will become persistent and deteriorate in later life.

'3 years older, closer to 80, and you feel much better... that goes against the idea that you're going to get worse with age...'

Permission to give some people the flick,
have good social networks



Empowered Beyond Pain
podcast

Co-hosted by:
Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro



Episode 12: Low back pain fact 2: It's not caused by getting older



Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

The 10 back facts – Number 3

MYTH: Persistent back pain is always related to tissue damage.



FACT

The 10 back facts – Number 3

MYTH: Persistent back pain is always related to tissue damage.

‘Persisting pain has much more to do with other factors not the actual pathology you might see on an image’

‘Persisting pain often has much more to do with psychosocial factors... often turns on a lightbulb’

‘Smoking, obesity, catastrophization, fear, and beliefs...talking about these things can start a conversation’



EMPOWERED BEYOND PAIN podcast

Co-hosted by:
Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro



Episode 13: Low back pain fact 3: Rarely associated with serious tissue damage with Professor Rachelle Buchbinder

Listen on **Spotify** Listen on **Apple Podcasts** Listen on **Google Podcasts** Watch & Listen On **YouTube**

Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

The 10 back facts – Number 4

MYTH: Scans are always needed to detect the cause of LBP.



FACT 4: S

The 10 back facts – Number 4

MYTH: Scans are always needed to detect the cause of LBP.

‘Pain wasn’t coming from damage, and the scan wasn’t really telling the truth’



Empowered Beyond Pain
podcast

Co-hosted by:
Kevin Wernli, Professor Peter O’Sullivan, Dr JP Caneiro



Episode 14: Low back pain fact 4: Scans rarely show the cause of back pain with patient voice, Joe.



Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

The 10 back facts – Number 4

MYTH: Scans are always needed to detect the cause of LBP.

Table 2: Age-specific prevalence estimates of degenerative spine imaging findings in asymptomatic patients^a

Imaging Finding	Age (yr)						
	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	4%	9%	18%	32%	50%	69%	83%
Spondylolisthesis	3%	5%	8%	14%	23%	35%	50%

^a Prevalence rates estimated with a generalized linear mixed-effects model for the age-specific prevalence estimate (binomial outcome) clustering on study and adjusting for the midpoint of each reported age interval of the study.

REPORTS

ARE MRIS RELIABLE?

Herzog, B., et al. (2017). "Variability in diagnostic error rates of 10 MRI centers performing lumbar spine MRI examinations on the same patient within a 3-week period." *The Spine Journal*.

1 patient... 10 MRIs... 10 different results!

- 49 different 'findings'
- 16 were unique
- 0 found across all 10!

Each Radiologist averaged 12 errors!

Don't just rely on the scan, it's only part of the bigger picture, get an informed clinical opinion!

BODYLOGIC.PHYSIO Infographic by @KWernliPhysio

The 10 back facts – Number 5

MYTH: 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.



FA

The 10 back facts – Number 5

MYTH: 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.

‘Before if I moved and there was pain I would immediately stop’

The new mindset was ‘oh the pain is still there but you can still move’



Empowered Beyond Pain
podcast

Co-hosted by:
Kevin Wernli, Professor Peter O’Sullivan, Dr JP Caneiro



Episode 15: Low back pain fact 5: Pain with exercise and movement doesn’t mean harm, with patient voice, Megan.



Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

The 10 back facts – Number 5

MYTH: 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.



EMPOWERED BEYOND PAIN podcast
Co-hosted by:
Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro

Episode 15: Low back pain fact 5: Pain with exercise and movement doesn't mean harm, with patient voice, Megan.

Listen on **Spotify** | Listen on **Apple Podcasts** | Listen on **Google Podcasts** | Watch & Listen On **YouTube**

Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

'All pain starts in your brain'

'Calm myself down'

'Now we know a brain repairs itself, when know the brain is plastic'

The 10 back facts – Number 6

MYTH: LBP is caused by poor posture when sitting, standing and lifting.



The 10 back facts – Number 6

MYTH: LBP is caused by poor posture when sitting, standing and lifting.



Empowered Beyond Pain podcast
Co-hosted by:
Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro

Episode 16a: Posture and pain.
Back pain fact 6 with Diane Slater and Kieran O'Sullivan

Listen on **Spotify** | Listen on **Apple Podcasts** | Listen on **Google Podcasts** | Watch & Listen on **YouTube**

Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast



7 SURPRISING FACTS ABOUT POSTURE

Slater D, Korakakis V, O'Sullivan P, Nolan D, O'Sullivan K. "Sit Up Straight": Time to Re-evaluate
J Orthop Sports Phys Ther. 2019;49:562-564. <https://doi.org/10.2519/jospt.2019.0610>

Twitter: @SlaterD_Physio, @KorakakisV, @PeteOSullivanPT, @DMNPhysio, @KieranOSull, @KWernliPhysio

- 1. There is NO single 'correct' posture**
Despite common posture beliefs, there is no strong evidence that one optimal posture exists or that avoiding 'incorrect' postures will prevent back pain.
- 2. Differences in postures are a fact of life**
There are natural variations in spinal curvatures and there is no single spinal curvature strongly associated with pain. Pain should not be attributed to relatively 'normal' variations.
- 3. Posture reflects beliefs and mood**
Posture can offer insights into a person's emotions, thoughts and body image. Some postures are adopted as a protective strategy and may reflect concerns regarding body vulnerability. Understanding the reasons behind preferred postures can be useful.
- 4. It is safe to adopt more comfortable postures**
Comfortable postures vary between individuals. Exploring different postures, including those frequently avoided, and changing habitual postures may provide symptomatic relief.
- 5. The spine is robust and can be trusted**
The spine is a robust, adaptable structure, capable of safely moving and loading in a variety of postures. Common warnings to protect the spine are not evidence-informed and can lead to fear.
- 6. Sitting is not dangerous**
Sitting down for more than 30 minutes in one position is NOT dangerous. However, moving and changing positions can be helpful, and being physically active is important for your health.
- 7. One size does not fit all**
Postural and movement screening does not prevent pain in the workplace. Preferred lifting styles are influenced by the naturally varying spinal curvatures and advice to adopt a specific posture or to brace the core is not evidence-based.

PAIN-ED | BODY LOGIC. PHYSIO | Infographic by @KWernliPhysio

This is a summary of the journal article only. Please read the full text for further information and clarification.

The 10 back facts – Number 6

MYTH: LBP is caused by poor posture when sitting, standing and lifting.

‘Having that stereotypical good posture and keeping that upright spine all the time stiffened everything up’

‘We are conditioned from a young age that backs are fragile and that we’ve got to protect them by keeping them straight, especially when lifting or loading’



Empowered Beyond Pain podcast

Co-hosted by:

Kevin Wernli, Professor Peter O’Sullivan, Dr JP Caneiro



Episode 16b: Posture and pain.

Back pain fact 6 with patient voice Joe, and Nic Saraceni

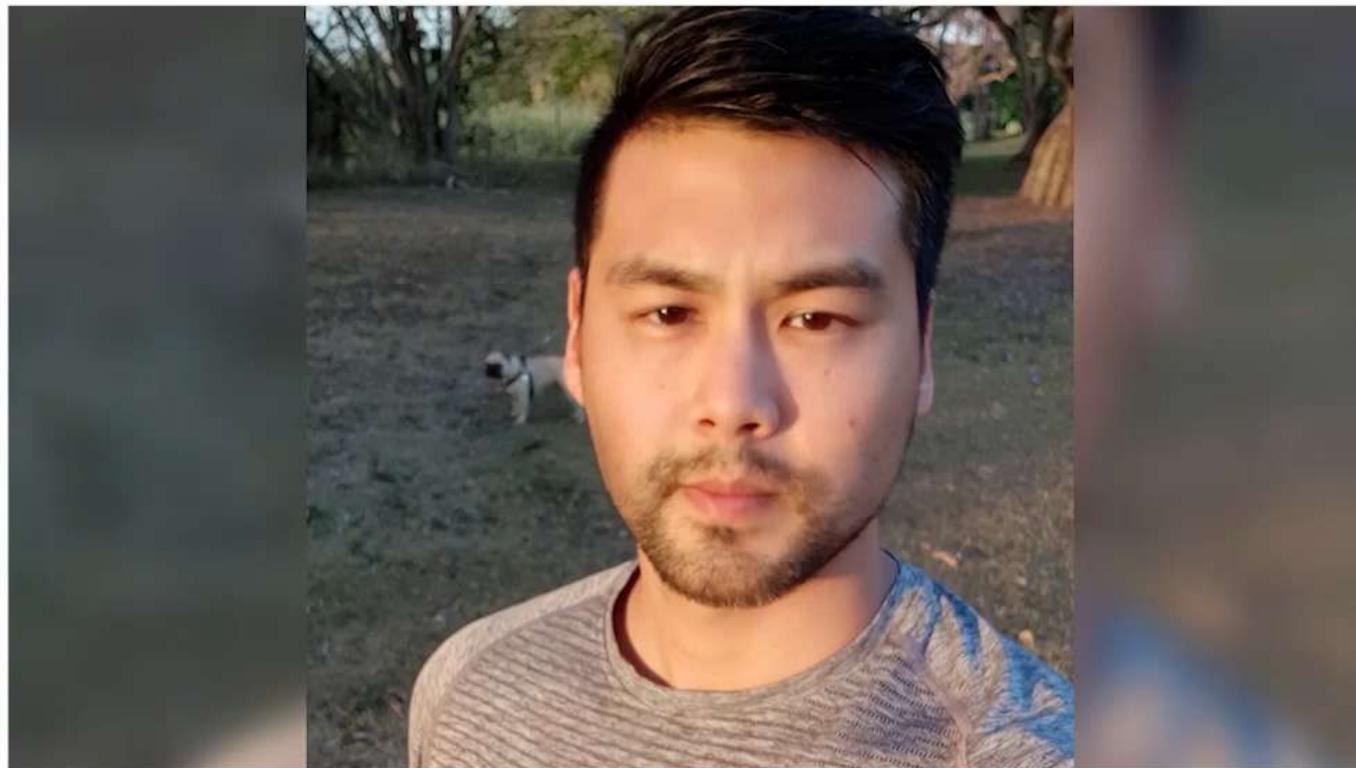


Show notes (infographics, references, transcript):

www.bodylogic.physio/podcast

The 10 back facts – Number 7

MYTH: Back pain is caused by weak 'core' muscles and having a strong core protects against future back pain.



FA

The 10 back facts – Number 7

MYTH: Back pain is caused by weak 'core' muscles and having a strong core protects against future back pain.

Gave myself permission to just stop doing that unhelpful (over) protective guarding

'As the pain reduced, my levels of concern and distress reduced and my capacity to function improved'



Empowered Beyond Pain podcast

Co-hosted by:
Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro

RESEARCH → REAL-LIFE

Episode 17: The Myth of Core Stability
Peter O'Sullivan's personal story for back pain fact 7

Listen on  Spotify  Apple Podcasts  Google Podcasts  Watch & Listen On YouTube

Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

The 10 back facts – Number 8

MYTH: Repeated spinal loading results in 'wear and tear' and tissue damage.



FA

The 10 back facts – Number 8

MYTH: Repeated spinal loading results in ‘wear and tear’ and tissue damage.

- Poor sleep, being sedentary, stress, loneliness etc. have a common output... **low-grade inflammation.**
- Repetitive, healthy use of a structure is good for it... **it gets stronger** (this may be the case even if there is pain)
- A **biopsychosocial** approach encompasses all aspects of a person who has pain.
‘Beliefs drive behaviour’



EMPOWERED BEYOND PAIN podcast
Co-hosted by: Kevin Wernli, Professor Peter O’Sullivan, Dr JP Caneiro

JP Caneiro

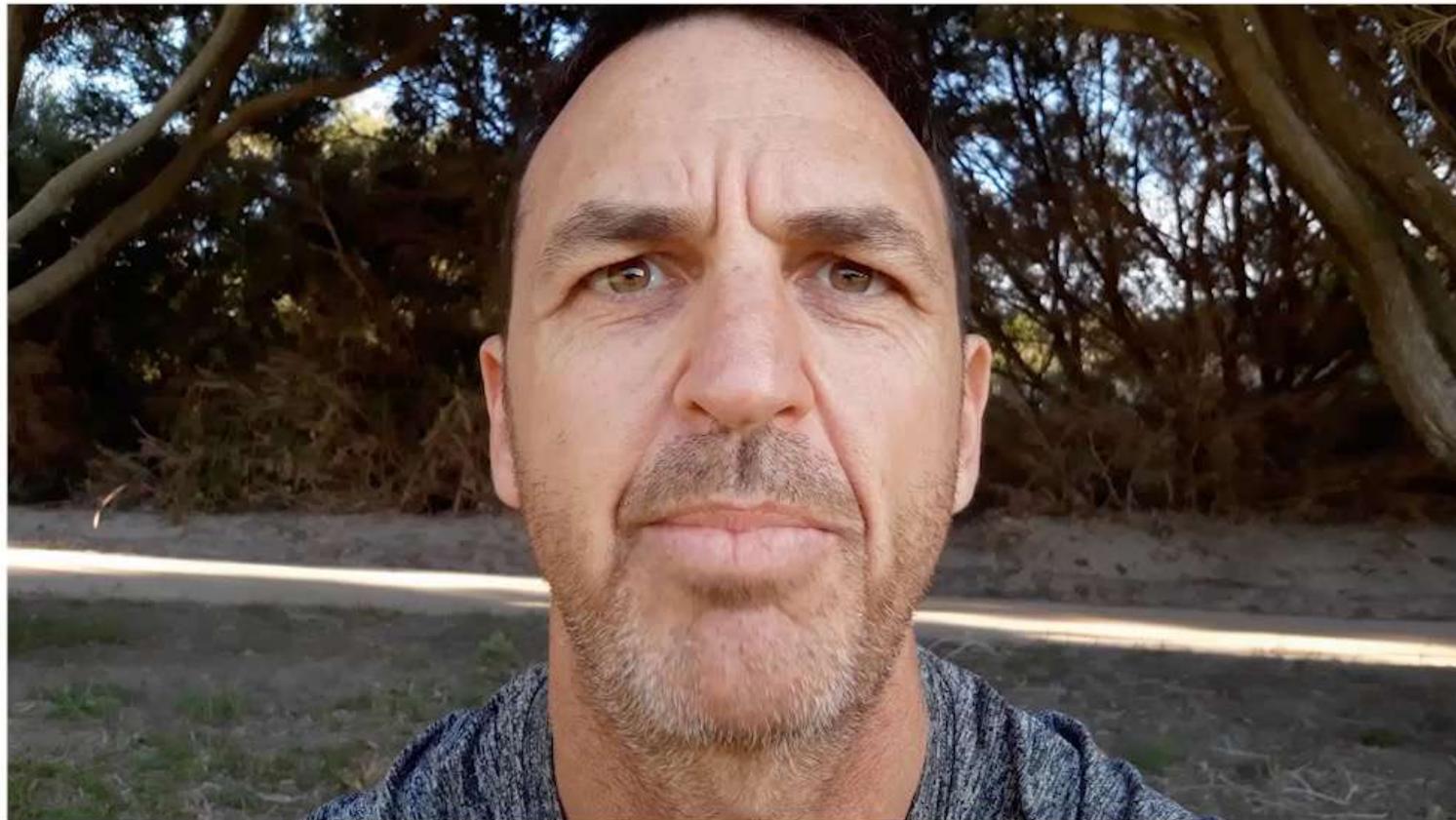
Episode 18: Backs don’t wear out with everyday loading with Dr JP Caneiro, PhD

Listen on Spotify | Listen on Apple Podcasts | Listen on Google Podcasts | Watch & Listen On YouTube

Show notes (infographics, references, transcript): www.bodylogic.physio/podcast

The 10 back facts – Number 9

MYTH: Pain flare-ups are a sign of tissue damage and require rest



The 10 back facts – Number 9

MYTH: Pain flare-ups are a sign of tissue damage and require rest



EMPOWERED BEYOND PAIN podcast
Co-hosted by:
Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro

Episode 19: 'Pain flare's don't mean you're damaging yourself' with patient voice, Jamie.

Listen on **Spotify** | Listen on **Apple Podcasts** | Listen on **Google Podcasts** | Watch & Listen On **YouTube**

Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

Scary

Slipping back into old ways
(beliefs, worries, protective movement
patterns, avoiding painful activities)

The 10 back facts – Number 9

MYTH: Pain flare-ups are a sign of tissue damage and require rest

We have a population that is conditioned to think if *'it hurts we have to stop, there is something damaged'*

'I've twinged my back, but its not even a thing'

With a twinge I exercise the area

Move the painful bit in a repetitive gentle way



Empowered Beyond Pain
podcast

Co-hosted by:
Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro



Episode 19: 'Pain flare's don't mean you're damaging yourself' with patient voice, Jamie.



Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

The 10 back facts – Number 10

MYTH: Treatments such as strong medications, injections and surgery are effective, and necessary, to treat LBP.



FA

The 10 back facts – Number 10

MYTH: Treatments such as strong medications, injections and surgery are effective, and necessary, to treat LBP.

'Why would you do a surgery if it doesn't work'

'Trying to make public more *skeptical*, meaning not *cynical*, but meaning *scientific*'



Empowered Beyond Pain
podcast

Co-hosted by:
Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro



Ian Harris

Episode 20: SURGERY, THE ULTIMATE PLACEBO
with, Orthopaedic Surgeon, Prof. Ian Harris

Listen on  Spotify  Listen on Apple Podcasts  Listen on Google Podcasts  Watch & Listen On YouTube

Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

The 10 back facts – Number 10

MYTH: Treatments such as strong medications, injections and surgery are effective, and necessary, to treat LBP.



EMPOWERED BEYOND PAIN podcast
Co-hosted by: Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro

Ian Harris

Episode 20: SURGERY, THE ULTIMATE PLACEBO with, Orthopaedic Surgeon, Prof. Ian Harris

Listen on Spotify | Listen on Apple Podcasts | Listen on Google Podcasts | Watch & Listen On YouTube

Show notes (infographics, references, transcript): www.bodylogic.physio/podcast

'It tells us about the complexity of back pain, it's a lot more to do with other factors in some cases than just structure'

'Everyone 100% experiences the pain' (pain is 100% real, all the time)

The 10 back facts – Number 10

MYTH: Treatments such as strong medications, injections and surgery are effective, and necessary, to treat LBP.

'Outcomes are much worse for surgery in a workers compensation environment'

'If you give a structural, physical solution to a psychosocial problem you're not going to get a good result'



EMPOWERED BEYOND PAIN podcast
Co-hosted by: Kevin Wernli, Professor Peter O'Sullivan, Dr JP Caneiro

Ian Harris

Episode 20: SURGERY, THE ULTIMATE PLACEBO with, Orthopaedic Surgeon, Prof. Ian Harris

Listen on **Spotify** Listen on **Apple Podcasts** Listen on **Google Podcasts** Watch & Listen On **YouTube**

Show notes (infographics, references, transcript):
www.bodylogic.physio/podcast

Take home summary

- All pain is 100% real, 100% of the time... but
- Lots of different biopsychosocial factors contribute to a person's experience of pain
- In other words, pain happens as a result of many interacting, multidimensional factors
- Damage/injury may be one factor, but it's rarely a key driver in persistent pain
 - Even if you 'can see it' on a scan or you've been told it is a key driver
- It can be helpful to reframe your structures as sensitized or irritated, and that they need more love and loading... (sometimes that may be despite/through pain)

While your structures may be sensitized to pain at the moment, they're unlikely to be sensitized to damage, and certainly not immune to getting healthier/stronger.

- It might not be an easy journey, but with a good coach, you can get back to living – *'your system is a beautiful bioplastic ecosystem... until the day you die'*
- Do things that are fun, healthy, and bring you joy – and don't give up!

References

- O'Sullivan, P., Caneiro, J. P., Sullivan, K., Lin, I., Bunzli, S., Wernli, K., & Keefe, M. (2019). Back to basics: 10 facts every person should know about back pain. *British Journal of Sports Medicine*. <https://doi.org/10.1136/bjsports-2019-101611>
- Slater, D., Korakakis, V., O'Sullivan, P., Nolan, D., & O'Sullivan, K. (2019). "Sit Up Straight": Time to Re-evaluate. *Journal of Orthopaedic & Sports Physical Therapy*, 49(8), 562-564. <https://doi.org/10.2519/jospt.2019.0610>
- Swain, C. T. V., Pan, F., Owen, P. J., Schmidt, H., & Belavy, D. L. (2020). No consensus on causality of spine postures or physical exposure and low back pain: A systematic review of systematic reviews. *Journal of Biomechanics*. <https://doi.org/https://doi.org/10.1016/j.jbiomech.2019.08.006>
- Brinjikji, W., Luetmer, P. H., Comstock, B., Bresnahan, B. W., Chen, L. E., Deyo, R. A., . . . Jarvik, J. G. (2015). Systematic literature review of imaging features of spinal degeneration in asymptomatic populations. *American Journal of Neuroradiology*, 36(4), 811-816. <https://doi.org/10.3174/ajnr.A4173>
- Buchbinder, R., van Tulder, M., Öberg, B., Costa, L. M., Woolf, A., Schoene, M., . . . Woolf, A. (2018). Low back pain: a call for action. *The Lancet*, 391(10137), 2384-2388. [https://doi.org/10.1016/S0140-6736\(18\)30488-4](https://doi.org/10.1016/S0140-6736(18)30488-4)
- Mannion, A. F., Caporaso, F., Pulkovski, N., & Sprott, H. (2012). Spine stabilisation exercises in the treatment of chronic low back pain: a good clinical outcome is not associated with improved abdominal muscle function. *European Spine Journal*, 21(7), 1301-1310. <https://doi.org/10.1007/s00586-012-2155-9>
- Saragiotto, B. T., Maher, C. G., Yamato, T. P., Costa, L. O., Costa, L. C., Ostelo, R. W., & Macedo, L. G. (2016). Motor Control Exercise for Nonspecific Low Back Pain: A Cochrane Review. *Spine (Phila Pa 1976)*, 41(16), 1284-1295. <https://doi.org/10.1097/brs.0000000000001645>
- Smith, B. E., Littlewood, C., & May, S. (2014). An update of stabilisation exercises for low back pain: a systematic review with meta-analysis. *BMC Musculoskeletal Disord*, 15, 416. <https://doi.org/10.1186/1471-2474-15-416>
- Saraceni, N., Kent, P., Ng, L., Campbell, A., Straker, L., & O'Sullivan, P. (2020). To Flex or Not to Flex? Is There a Relationship Between Lumbar Spine Flexion During Lifting and Low Back Pain? A Systematic Review With Meta-analysis. *J Orthop Sports Phys Ther*, 50(3), 121-130. <https://doi.org/10.2519/jospt.2020.9218>
- van Dieen, J. H., Hoozemans, M. J., & Toussaint, H. M. (1999). Stoop or squat: a review of biomechanical studies on lifting technique. *Clin Biomech (Bristol, Avon)*, 14(10), 685-696. [https://doi.org/10.1016/s0268-0033\(99\)00031-5](https://doi.org/10.1016/s0268-0033(99)00031-5)
- Martimo, K. P., Verbeek, J., Karppinen, J., Furlan, A. D., Takala, E. P., Kuijper, P. P., . . . Viikari-Juntura, E. (2008). Effect of training and lifting equipment for preventing back pain in lifting and handling: systematic review. *Bmj*, 336(7641), 429-431. <https://doi.org/10.1136/bmj.39463.418380.BE>
- Herzog, R., Elgort, D. R., Flanders, A. E., & Moley, P. J. (2016). Variability in diagnostic error rates of 10 MRI centers performing lumbar spine MRI examinations on the same patient within a 3-week period. *Spine J*. <https://doi.org/10.1016/j.spinee.2016.11.009>
- Vos, T., Abajobir, A. A., Abate, K. H., Abbafati, C., Abbas, K. M., Abd-Allah, F., . . . Murray, C. J. L. (2017). Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet*, 390(10100), 1211-1259. [https://doi.org/10.1016/S0140-6736\(17\)32154-2](https://doi.org/10.1016/S0140-6736(17)32154-2)
- Darlow, B., Dean, S., Perry, M., Mathieson, F., Baxter, G. D., & Dowell, A. (2015). Easy to Harm, Hard to Heal: Patient Views About the Back. *Spine (Phila Pa 1976)*, 40(11), 842-850. <https://doi.org/10.1097/brs.0000000000000901>

Resources

TAKING CONTROL OF PERSISTENT PAIN: THE JOURNEY
 Infographic by @KWernliPhysio @DoroSullivanDT @JDParatro

OLD MINDSET

- Pain = damage
- Pain needs resting
- Fun activities aren't safe
- It's easy to injure my body if I'm not careful
- I can't trust my body
- If it hurts... tense, protect and avoid
- It's dangerous to move
- My scan means I can't improve
- Pain flares freak me out

Management approach:
 Underpinned by a trusting relationship with your physiotherapist.

CONFIDENCE IN YOUR BODY
 CONFIDENCE in PAINFUL, SCARY or AVOIDED activities that you value

HEALTHY LIFESTYLE
 Physical activity, Stress Management, Sleep, Healthy diet

YOUR JOURNEY
 Physio's job is to coach you, Take charge of your health, Easy for some, tough for others

MAKING SENSE OF PAIN
 I now have confidence to manage this

NEW MINDSET

- Lifestyle factors are important
- Fun activities are best
- Movement and graduated loading makes the body strong and healthy
- Pain does not equal damage
- If it hurts... relax, breathe and move normally
- I can trust my body
- It's safe to move
- My scan is only part of the picture
- My body is strong and robust!
- Confidence to manage pain flare

Timeframe:
 4-7 sessions over 12 weeks + boosters if required

©Wernli et al. (2018). Evidence-Based Therapy: An Integrated Evidence-Based Approach for the Targeted Management of (Sub)acute Back Pain. Physical Therapy



<http://kevinwernli.com/givingbackresources>

Resources page:

Giving Back - Back Pain Resources

Infographics, Videos and Podcast:

BACK FACTS

- Persistent back pain can be scary, but it's rarely dangerous**
 Persistent back pain can be concerning and disabling, but it's rarely life-threatening and you are very unlikely to end up in a wheelchair.
- 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.
- 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 have contributions from stress, tension, fatigue, inactivity or unaccustomed activity which can make the back sensitive to movement and loading.
- Scans rarely show the cause of back pain**
 Scans are important, but rely for a minority of people. Lots of scary-sounding things can be seen on scans such as disc bulges, degenerative 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 also often change, and most disc protrusions shrink over time.
- 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 with 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 treat back pain, and having a health-professional coach you through the process can be helpful.
- Back pain is not caused by poor posture**
 How we sit, stand and bend has not been shown to 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 rounded back - in fact, it can be more efficient!
- Back pain is not caused by a weak core**
 Weak 'core' muscles do not cause back pain. In fact people with back pain often have their 'core' muscles and back their belly in during activities as a protective response. This is like clenching your fist after you've scratched 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.
- Backs do not wear out with everyday loading and bending**
 The same way things weights make muscles stronger, stress and loading make the back stronger and healthier. So activities, like running, walking, bending and lifting, are safe if you start gradually and practice regularly.
- 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 energy, stress, tension, worry, low mood, reactivity or unaccustomed activity. Controlling these factors can help prevent escalation, and if you have a pain flare-up, instead of treating it like an injury, try to stay calm, relax and keep moving!
- Injections, surgery and strong drugs usually aren't a cure**
 Some injections, surgery and strong drugs like opioids usually aren't very effective for persistent back pain in the long term. They come with risks and can have harmful side effects. Finding low-risk ways to get you in control of your pain is the key.

BISM PAIN-ED @KWernliPhysio BODY LOGIC PHYSIO