

Searching for Simplicity on the Far Side of Complexity in Effective Pain Education

Debt of gratitude to

David Butler at noi, www.noigroup.com.au

Lorimer Moseley Body in Mind Group at UniSA, www.bodyinmind.org

"I wouldn't give a fig for the simplicity on the near side of complexity, but I would give my right arm for the simplicity on the far side of complexity"

Oliver Wendell Holmes

5 important ideas today

State of the (pain) Union

What is pain science education

Pain as an OUTPUT of the brain

The sensitised alarm system

A way out of pain

So what do we know,
what is the
State of the (Pain) Union?

How do we define pain?

An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage

International Association for the Study of Pain

Tearing apart my family

Making me angry

Stopping me from playing with my kids

ROUINATING MY
Pain is....

LIFE

Destroying my marriage

Driving me mad

Stopping me from living

There has to be a better way

we need to redefine pain

"A multi system OUTPUT of the brain that motivates and assists the individual to get out of a situation that the BRAIN PERCEIVES to THREATEN the body tissues."

GL Moseley 2003

and use what we know of modern neuroscience to educate and dethreaten the pain experience

Pain Science Education

- Pain science is not anatomy education-
anatomy education can just scare people

Lumbar Burst Fracture with Multilevel Spinal Fusion

Post-accident Condition



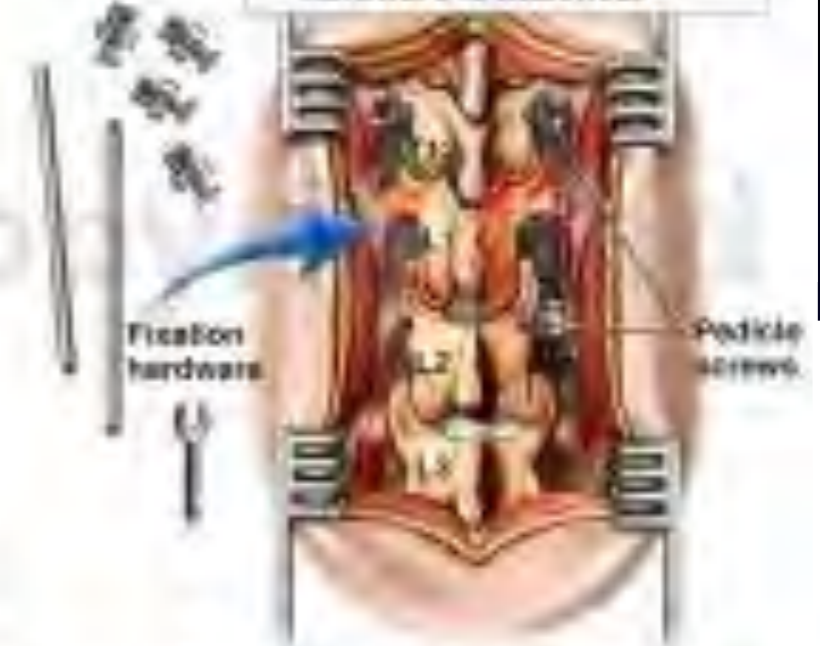
Post-accident Condition



A. An incision is made in the lower back to expose the lumbar vertebrae.



B. The T12 and L2 vertebrae are fitted with pedicle screws, to which the remaining fixation hardware is attached.

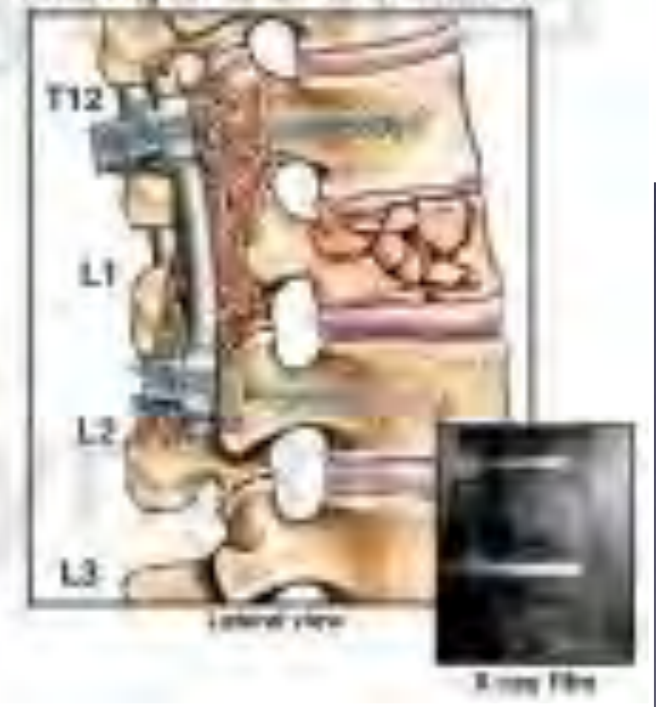


Bone graft harvested from patient's pelvis



C. The facets and transverse processes are decorticated and bone graft is placed to promote fusion.

Post-operative Condition



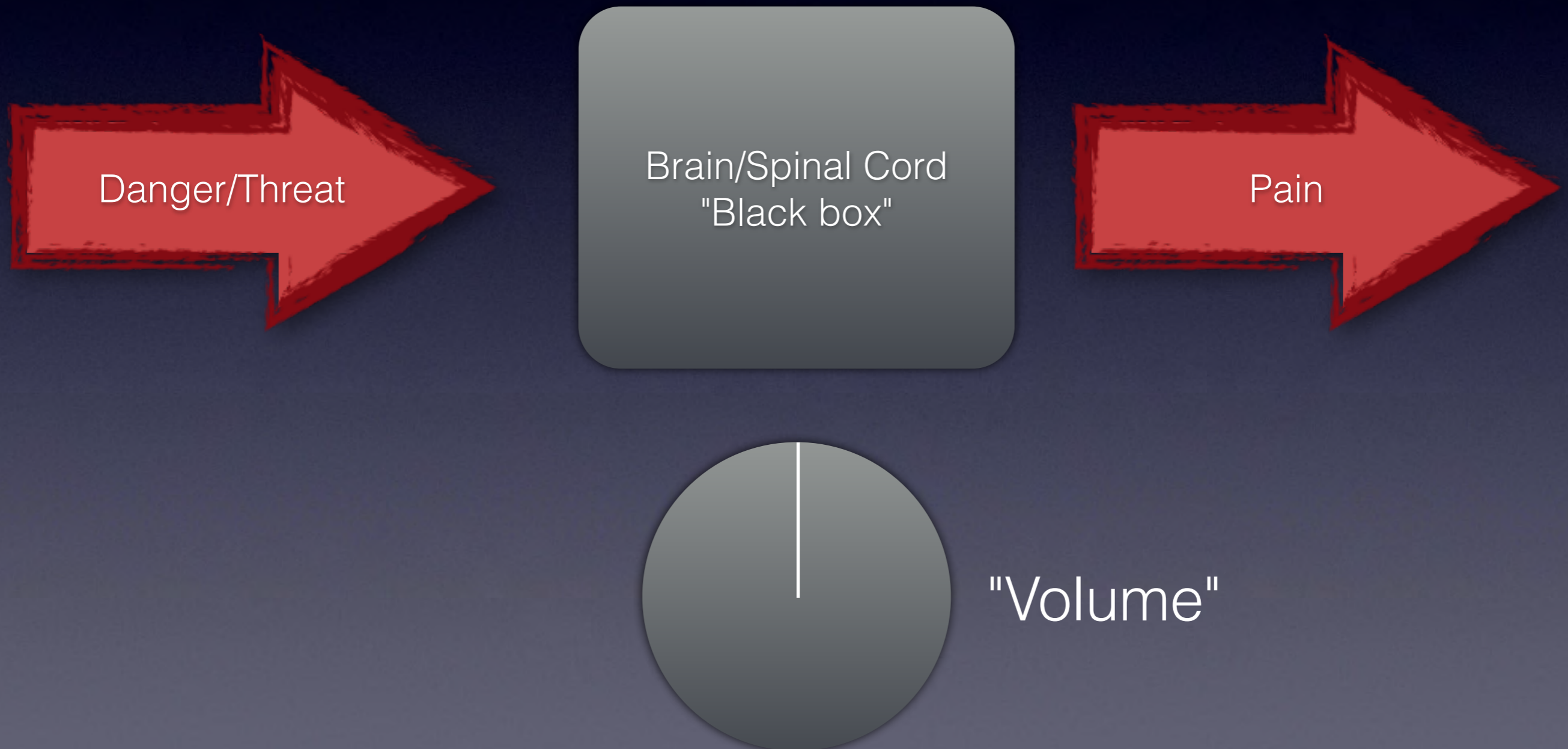
Pain Science Education

- Pain science is not anatomy education- anatomy education can just scare people
- Neuroscience based; brain, synapses, neuromatrix
- Uses story and metaphor to get across complex concepts in patient language
- De threatens the pain experience and explains the "unexplainable"
- Answers the questions: Why is my pain getting worse, why is it spreading, why isn't it getting better, why does everything hurt now, and others

PAIN AS AN *OUTPUT*

INPUT

OUTPUT





VisualFunHouse.com

Pain is an OUTPUT of the brain to get us out of trouble

- It's not the only output.....
- Other outputs include
 - Cardiovascular, muscular, endocrine, immune, sympathetic and parasympathetic, cognitive, digestive and even the reproductive systems
- Increased heart rate, increased muscle tension, hormonal changes, increased cortisol and adrenaline; the Fight or Flight response, can all accompany pain

When danger signals persist, or when threats at work or home continue and build, something begins to happen inside the black box

Adjustments are made and the brain and nervous system can get very engaged in protection.

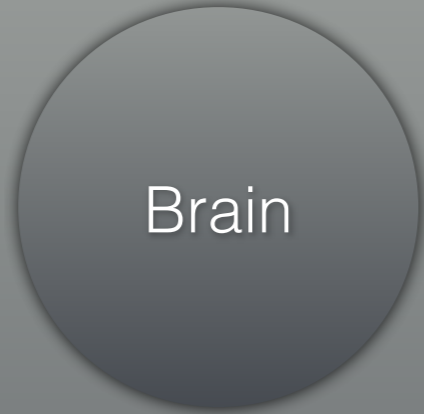
Inside the Black Box...

Brain/Spinal Cord
Black box



The brain gets increasingly engaged in protection

Brain/Spinal Cord
"Black box"



Receptors in
Spinal Cord



0434 841 962

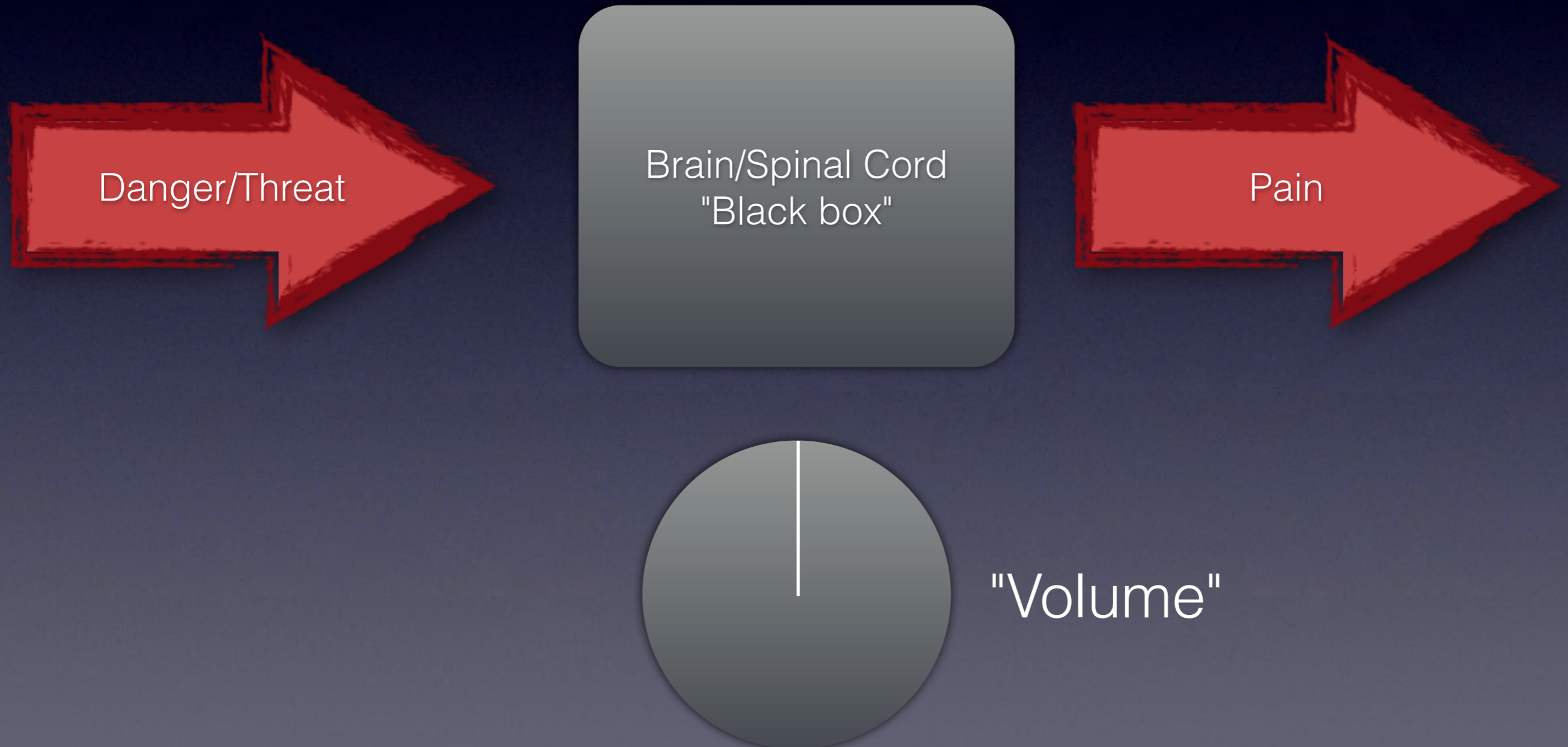
Tim Cocks
Physiotherapist
nb&a Rehab
Freedom to Move
Pain Education Program



PAIN AS AN *OUTPUT*

INPUT

OUTPUT



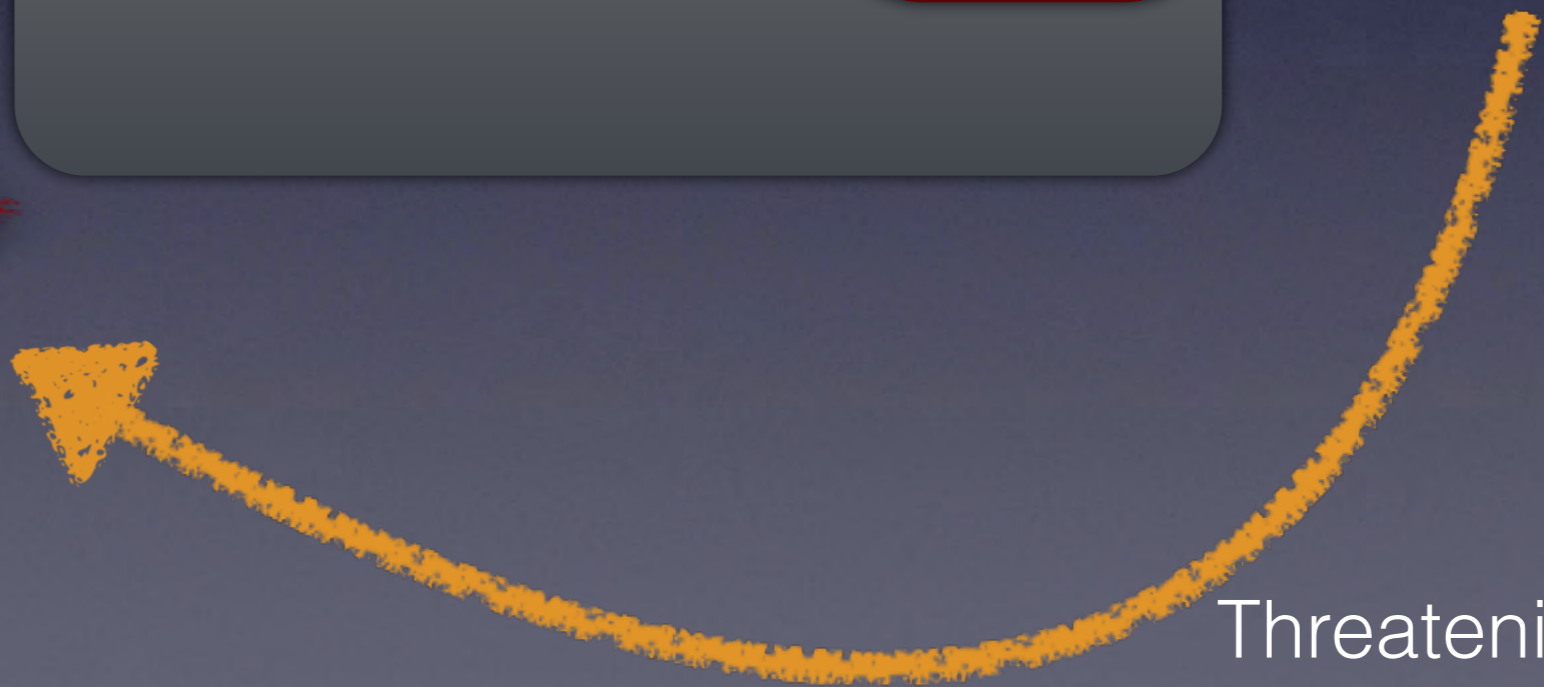
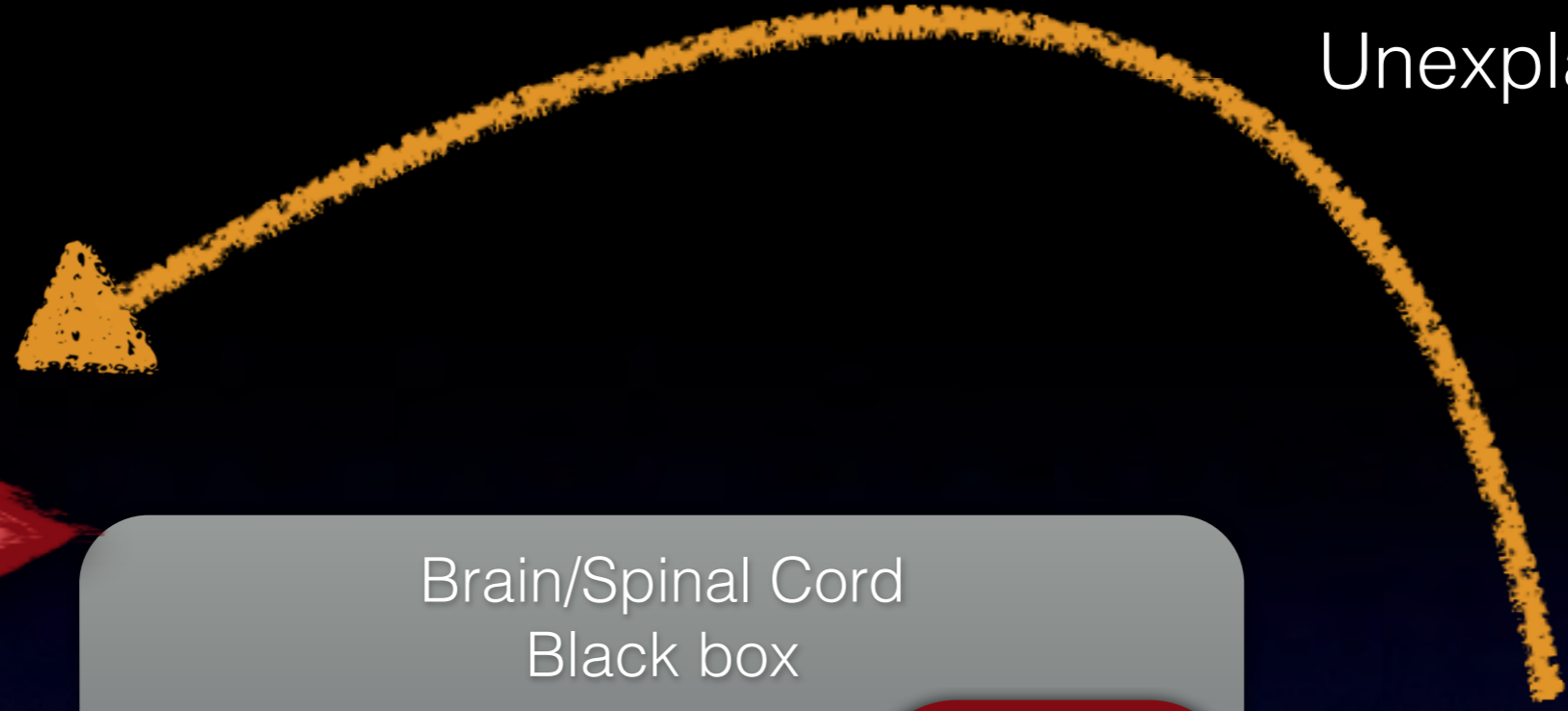
Unexplained pain



Brain/Spinal Cord
Black box

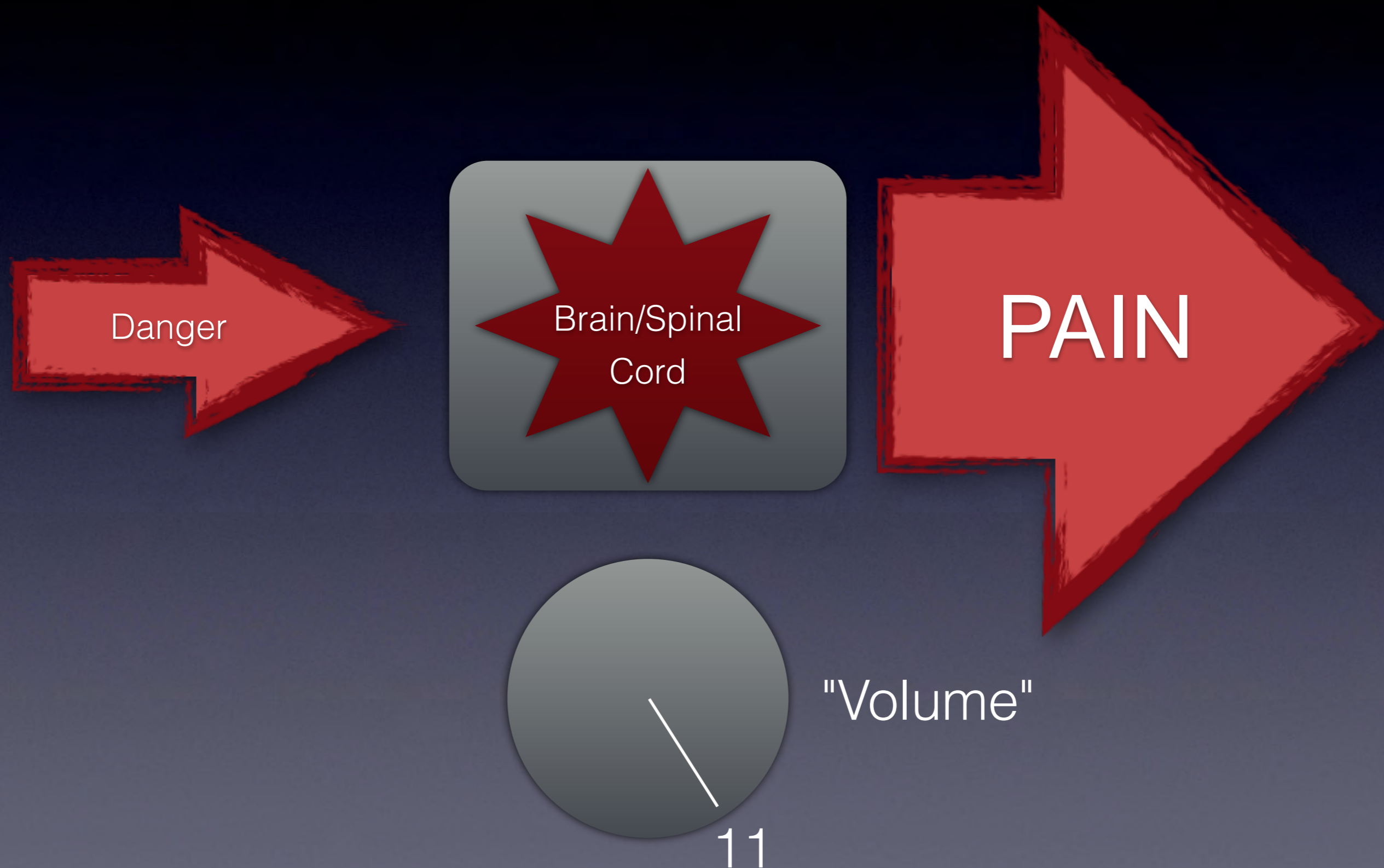
MOVIECLIPS.COM

Increased sensitivity



Threatening diagnosis

The sensitised danger alarm system



Have you heard the one
about the two Tasmanian
miners, Eddie McGuire,
Oprah and the Foo
Fighters?



They're SAFE....



**WE INTERRUPT
NORMAL PROGRAMMING
TO BRING YOU THIS
SPECIAL NEWS BREAK**

www.abc.com.au

...and everyone packed
up and went home



The way out - some essentials to begin the journey

- Must begin with education and knowledge
- Smart thinking: sore but safe, hurts wont harm
- Pacing and graded exposure
- Exploring the frontier of the neuroimmune system

Pacing and Graded Exposure

The gentle, patient art

Before Injury



Tissue Tolerance

Protect by pain

After Injury & Sensitisation

New Tissue Tolerance

No Pain, No Gain

Flare up
Base Line

SORE but SAFE zone

New Protect by Pain

If it hurts, don't do it



Key Messages

- Pain goes out, not in; pain is an output of the brain designed to protect us when our brain thinks we're in trouble
- Know pain, know gain
- I can be sore, but I can be safe
- Your hurts wont harm you
- Motion is lotion, Movement is medicine

The Immune System

- The **neuroimmune** system
 - "A system that knows who you are and when you are not you." Dr Mick Thacker
 - Powerful and wide ranging effects throughout the body
 - Kicks in when pain persists and can underpin chronic pain states
 - When injured people start saying they don't feel like themselves, start to dislike parts of their body it suggests that the immune system may be kicking in

The neuroimmune system is
incredibly complex, but....

At the simplicity on the far side
complexity there are some very
simple actions that we can take to
look after ourselves and help people
in trouble

Healthy Neuroimmune System

- Immune buffering behaviours:
 - Get a good night sleep
 - Eat well
 - Exercise
 - Set goals, make plans and work towards them
 - Good family and medical support
 - Maintain a sense of humor
 - Have a sense of control over life and treatment options
 - Relaxation techniques, stress reduction, mindfulness practice

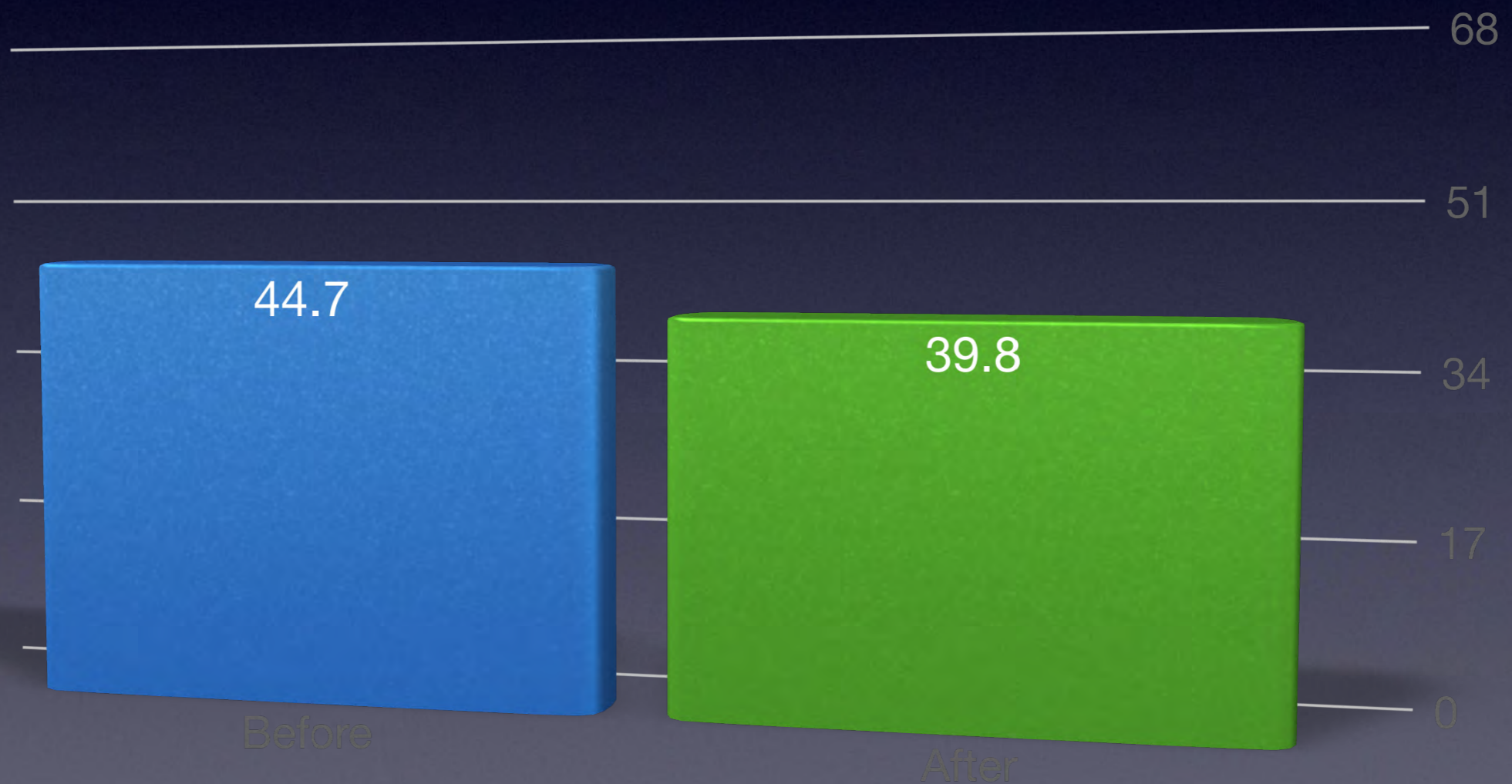
Does Pain Education work???

- Yes
- Clinical evidence continues to emerge, check Moseley 2004 and Louw 2011
- Freedom to Move Pain Education Program

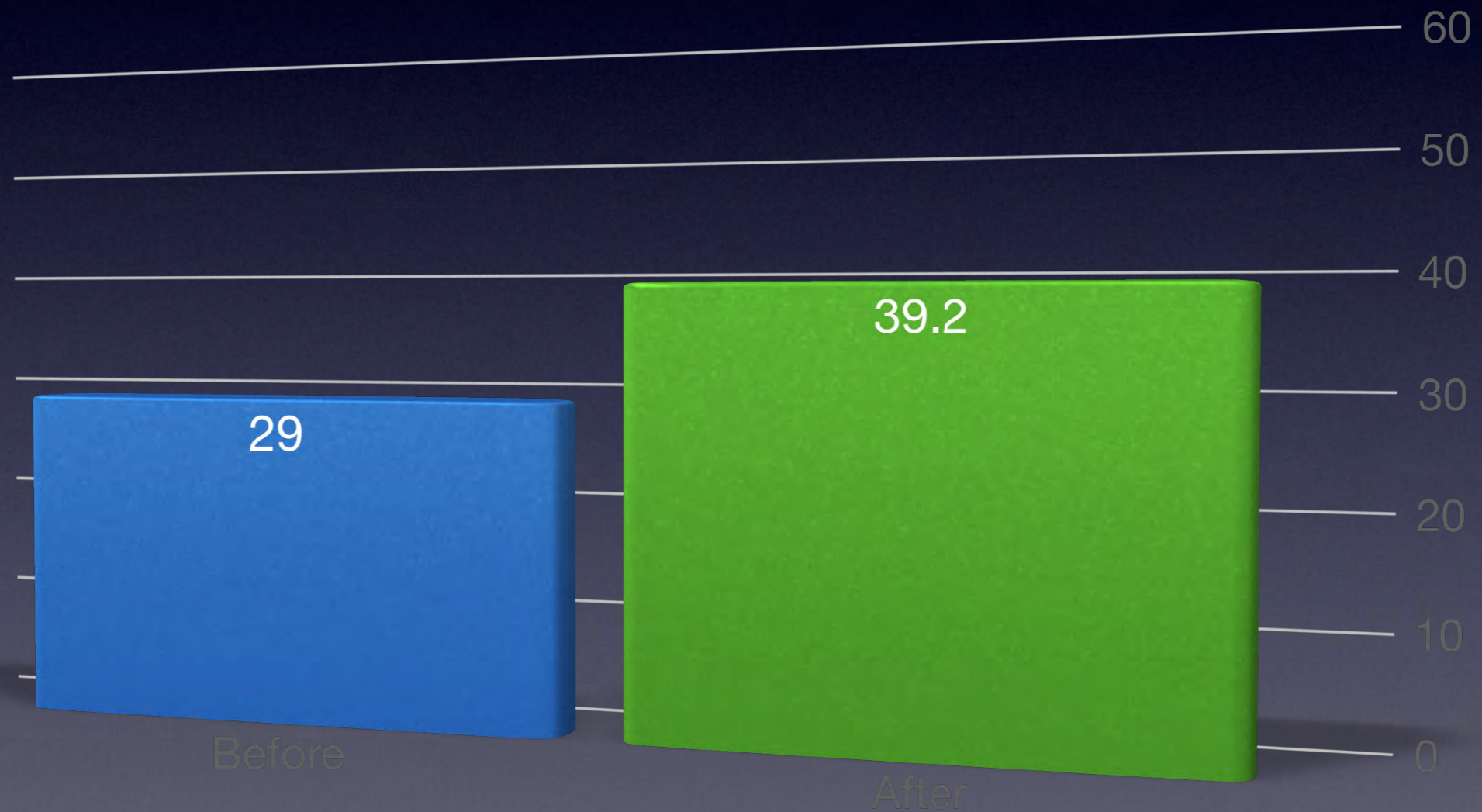
Freedom to move

- Tailored pain education
- Three 90 Minute sessions delivered at the workplace, home, cafe.....
- Participants provided with Explain Pain
- Before and after data collected....

Tampa Kinaesthesiophobia Scale



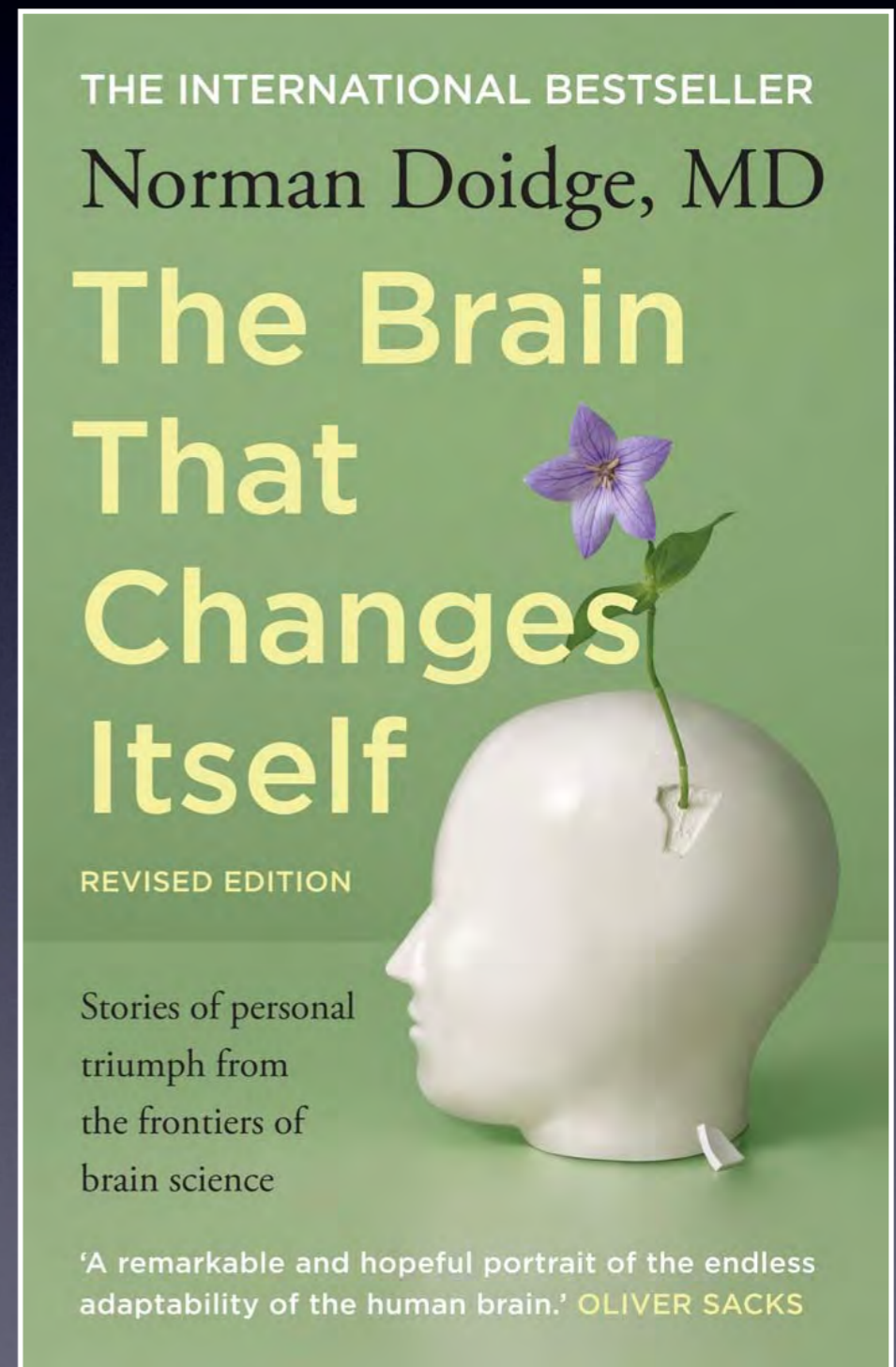
Pain Self Efficacy Questionnaire



One more
thing...

The Brain that Changes Itself

- "When we wish to perfect our senses, neuroplasticity is a blessing; when it works in the service of pain, plasticity can be a curse" Norman Doidge
- The "Neuroplasticians" inspirational leaders in the fields of medicine and neuroscience that harness the power of plasticity for good



We can all be neuroplasticians

- Education can change the brain
- By understanding pain at a deeper level we can all assist people with pain by de-threatening the pain experience and helping to desensitise the nervous system

"If someone has pain
in their hand, one does
not comfort the hand,
but the sufferer... one
looks into their face"

Ludwig Wittgenstein

Stay hungry, stay foolish

Steve Jobs