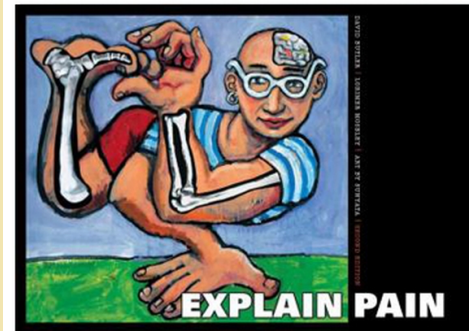




Neuroscience education for chronic pain

Back pain

Neuroscience

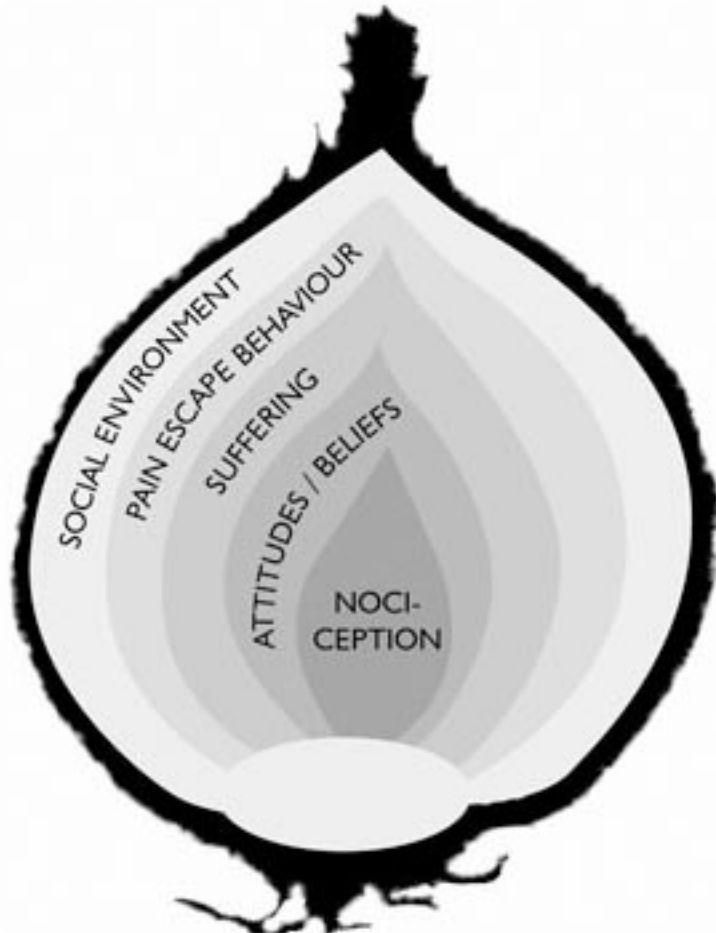


+ Newest insights from pain science



- Pain is a critical protective device
- Pain depends on how much danger you think you are in, not how much you are really in
- There are many systems designed to get you out of trouble and they can all be a part of a pain experience
- Tissue damage and pain often do not relate
- As pain persists the person in pain becomes better and producing pain
- Emotional and physical pain look similar. Moreover, pain and pleasure have similar neurotags

+ The onion skin model



- Chronic pain is not a reflection of damage in tissues
- There are many factors that influence your experience of pain (attitudes, environment etc)

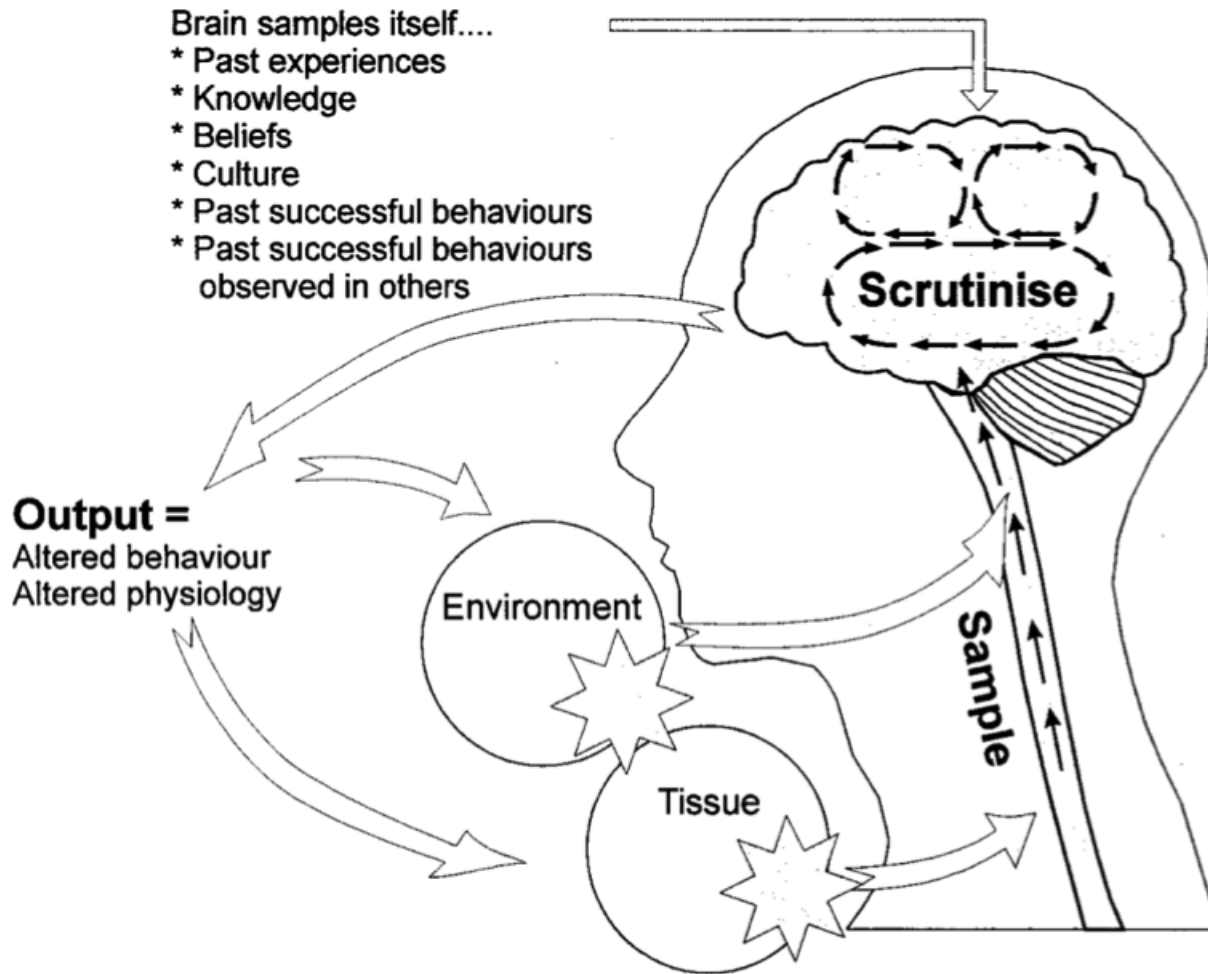
■ Loeser 1982

+ Chronic pain

- Persistent pain for more than 3 months
- The nervous system gets hypersensitive, we call this centralisation
- No diagnostic test can visualize these changes
- Deeper tissues injured lead to greater up-regulation (more pain)
- Contributing factors (e.g. coping strategies) are strongly linked
- Sensitivity changes affect all outputs (intensity of pain)
- These changes are more reversible than previously thought
- Can occur instantaneously
- Tissues can heal though still be unhealthy



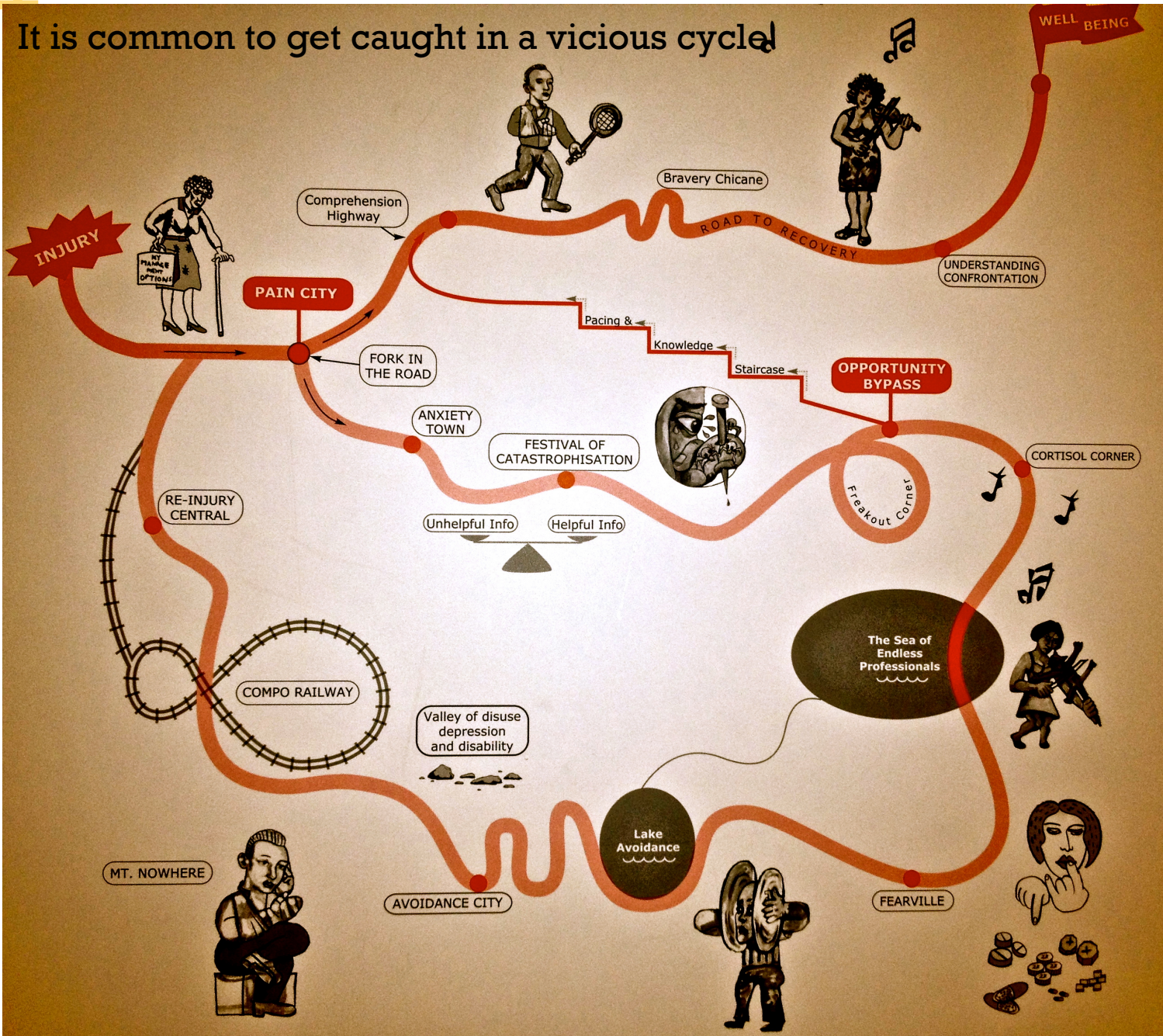
+ Which factors does pain depend on?



- Gifford 1 s 1998 Pain, the tissues and the nervous system: a conceptual model. *Physiotherapy* 84(1):27-36

The Road to Recovery

It is common to get caught in a vicious cycle

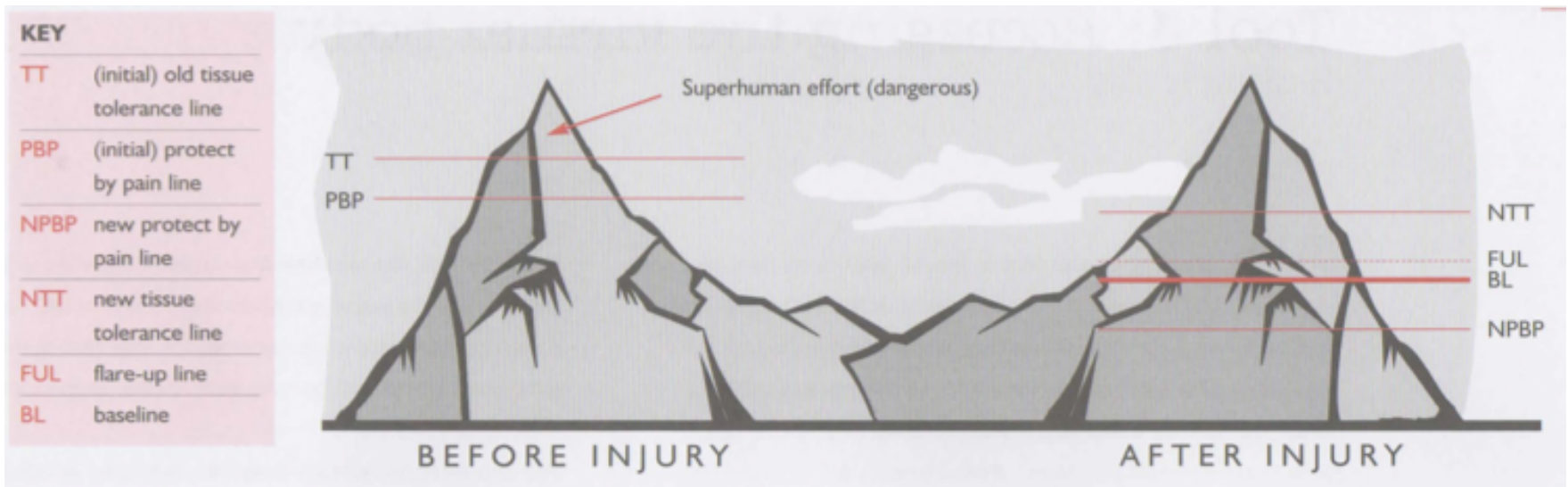




The importance of education



- There is strong evidence that neuroscience education will decrease pain ratings, decrease perceived disability, and decrease pain catastrophisation
- Learning to understand that pain does not equal damage and that pain is influenced by many factors will make you feel more in control




+ Recommended resources

- Neuro Orthopaedic Institute (NOI)
- The drug cabinet in the brain video
- Explain Pain book

NOI leaflets

Take Control
The nightmare of choice



Many people of people can help you with your pain. A good clinician should be compassionate, enthusiastic and knowledgeable. They are nervous about new ideas. They are experts.

The three guidelines to choose the right clinician for you. Overall, you will be better informed and in control if you understand the science behind your pain state.


1. Ask history or discuss requires a personal medical consultation.
2. Understand any prescribed help. Ask for explanation scientific evidence supporting what is offered to you.
3. Make goals that help you and your clinician understand. Ask for physical, social and work goals, which show your progress to be measured.
4. Try and get three questions answered:
 - How long will it take?
 - What is wrong with me?
 - What can you do for me?
5. Avoid total dependence on any one clinician.

We must take control.

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Thought Viruses
Thoughts and beliefs are nerve impulses in your brain

and some are not helpful...



'Thought Viruses'

- are powerful enough to drive your pain.
- are more likely to sustain your pain if you don't understand how pain works.
- can cause or increase your pain enough to take you right to the edge!

Talk about these 'viruses' with your clinician.

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+ Moseley's Pain Sciences Quiz




www.noigroup.com

Source:

<http://www.stepp.com.au/PainQuiz.pdf>

QUESTIONS		before			after		
		T	F	U	T	F	U
1	When part of your body is injured, special pain receptors convey the pain message to your brain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
2	Pain only occurs when you are injured	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
3	The intensity of pain matches the severity of the injury	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
4	Nerves have to connect a body part to the brain in order for that part to be in pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
5	In chronic pain, the central nervous system becomes more sensitive to nociception (danger messages from tissues)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
6	The body tells the brain when it is in pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
7	The brain can send messages down your spinal cord that can increase the nociception (danger messages) going up the spinal cord	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
8	Peripheral nerves can adapt by increasing their resting level of excitement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
9	Chronic pain means an injury hasn't healed properly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
10	The brain decides when you will experience pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
11	The pain you feel is the same pain your grandparents felt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
12	Worse injuries always result in worse pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
13	When you are injured, the environment that you are in will not have an effect on the amount of pain that you experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
14	It is possible to have pain and not know about it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
15	Stress can make a peripheral nerve fire	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
16	Your internal pain control system is more powerful than any drug taken by mouth or injected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
17	The immune system has nothing to do with a pain experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
18	Pinched nerves always hurt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
19	It is possible to treat pain by causing pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
20	Chronic pain is more common in wealthier countries than poorer countries.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			



References:



- Book: Butler D & Moseley L (2013) Explain Pain. Noi Group Publications
- Gifford I s 1998 Pain, the tissues and the nervous system: a conceptual model. *Physiotherapy* 84(1):27-36
- Moseley L (2002) Combined physiotherapy and education is efficacious for chronic low back pain. *Australian Journal of Physiotherapy*. 48: 297-302.