

## AN EVIDENCE BASED MULTIDISCIPLINARY APPROACH TO TREATING CHRONIC PAIN

Pain is an essential **NORMAL** output of the brain to protect or alert our body of potential harm, although unpleasant, it is one of the most important experiences we have. (Butler & Mosely 2003)

Activation of peripheral sensory organs (nociceptors), send information of **DANGER** to the brain (**NOT PAIN**) the brain then weighs this information up with the "weight of the world" and decides

### ABOUT CHRONIC PAIN...

- Pain that persists beyond the natural time of tissue healing, beyond the time the body **NEEDS** to protect its self and frequently has no clearly identifiable cause' (Ready & Edwards, 1992)
- Chronic pain often results in **central sensitisation**, a reversible increase in the excitability at the neuronal synapse in the nociceptive pathways with often associated alteration in the virtual body representation within our brain. (Melzack R 1999; Butler & Moseley 2003)
- Two main characteristics:
  - Pain due to a stimulus that does not normally provoke pain (**allodynia**)
  - Increased pain from a stimulus that normally provokes pain (**hyperalgesia**)
- Impairs normal functioning
  - localised and/or whole body
  - stress/external factors
- Primary goal: improve health and functioning

### A MULTI-DISCIPLINARY APPROACH

- **GP:** Gate keepers, appropriate referral, pain medication, (general, neuropathic, antidepressant), appropriate investigations, opportunities to reduce threat of pain via communication
- **Specialist:** e.g. Rehab/Pain. Further refine medication, interventions/surgical procedures (e.g. LA/CSI, RFN, stim etc.) Engage a multi-disciplinary team to allow the patient a period of time to rehabilitate aiming to reduce drug dependence, and intervention over time
- **Physiotherapist:** Education+ (empower and reduce catastrophizing), Graded Motor Imagery either intense or part of normal rehabilitative program, restore normal movement/posture, monitor and advise on exercise rehab program in conjunction with the exercise physiologist, develop a return to work program always in the aim of patient self-management.
- **Exercise physiologists:** Re-enforce education, help develop and implement graded exercise program targeting restore normal movement and posture with physiotherapist. Guide return to work, sport and life. Goal orientated.
- **Occupational Therapist:** To assist with aids/home setups/RTW plans and work closely with allied team to provide an effective pathway to functional outcomes.
- **Psychologist:** Tackle beliefs, address past trauma, manage stress, depression, anxiety, tools to help cope, sleep hygiene
- **Dietitian:** Reduce diet-induced pro-inflammatory state, weight management

### Part 1: Education + + + + +

- It is increasingly recognised that acute and chronic pain may represent a continuum rather than distinct entities
- A critical factor in developing chronic pain is the belief that the body is damaged
  - This often leads to fear of movement which results in a loss of strength, flexibility, endurance and predispose the body to further injury (Follett, 2015)

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### We can reduce this progression with:

- Education - empower patient to be the driver of their rehab and recovery
- Reducing catastrophizing (risk factor of developing chronic pain)
- Normalise movement
- Graded program targeting strength, proprioception flexibility etc.
- Guide return to work, sport and life
- All to reduce progression into chronicity!

### RESEARCH

Mosley et al RCT (2002 & 2004) showed 1 on 1 education sessions about the neurophysiology of pain will result in significant changes in;

- ✓ **pain beliefs**
- ✓ **attitudes/cognitions**
- ✓ **physical performance**
- ✓ **increase in pain thresholds during physical activities**

This idea therefore creates a stepping stone to introduce better function and normalise of movement and pain perception which is where normal structured rehabilitation programs seem to fail.

### THE NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL REPORTS:

Systematic reviews (level 1a evidence) for therapy that demonstrates that explaining pain, as part of recovery and rehabilitation reduces pain and disability at 6 and 12 months with the NNT of 3 for 50% pain reduction which is more effective in the long term than the current medications we use for pain management.

The NNT for Pregabalin is between 4 - 7

### PART 2: GMI – GRADED MOTOR IMAGERY

1. The rehabilitation is focused on graded brain exercises.
2. Involves the use of computers, flashcards, imagined movements and mirror visual feedback
3. Broken up into 3 components laterality, imagery and mirror therapy
4. It gives people who experiencing pain just thinking about it somewhere positive to go to alter the underlying neurotag or pathway to set up a pathway to begin motor function
5. Evidence shows GMI for treating CRPS type 1 has a NNT of 3 (more effective than any other interventions currently on the market) *Graded motor imagery for pathologic pain A randomized controlled trial G. Lorimer Moseley, PhD NEUROLOGY 2006;67:2129–2134*

### GMI STRUCTURED INTENSIVE PATHWAY

- **8-week program** (twice week) Need psychological support with assessment which needs to be shared with physio
- **Week 1-2** Education and read Explain Pain
- **Week 3-4** Phase 1 implicit program: Laterality
- **Week 5-6** Phase 2 Explicit program: Visualization of movement
- **Week 7-8** Phase 3 Mirror box and active movement
- **Ongoing maintenance:** Fortnightly 4 session, monthly for 6-12 months.

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### CHRONIC PAIN MULTIDISCIPLINARY TEAM

1. Communication between all providers in relation to the patient
2. Our goal is to provide a fast/easy to access, professional and evidence based treatment pathway for chronic pain patients in a MD setting who all work together to improve the patient's quality of life and reduce chronic symptoms
3. All referring GP's will receive regular communication about commencement of treatment, the main findings and ongoing communication to be kept up to date as we progress through rehabilitation
4. Eligibility for referral to the Brisbane Pain Rehabilitation Service (BPRS)
  - 2-week pain management program – inpatient/outpatient

### SUMMARY: PAIN AND GENERAL REHABILITATION OPTIONS AT SPORTS & SPINAL

Chronic pain program: Structured program working on pain education and functional rehab. 12-week framework (Physio + EP) – patient then can move to home management with monthly reviews and/or a suitable cost-effective class to focus on the functional gain needed.

- Weekly session for 6 weeks
- Fortnightly sessions for 6 weeks
- Progression to monthly follow up or possible structured class with independent program

Graded Motor Imagery: 8-week program intensive or integrated within 12-week rehabilitative program depending on pain/diagnosis and current function at referral.

Exercise Physiology, Pilates, hydrotherapy – classes or 1 on 1. Also assist in managing co-morbidities (Cardiac, Diabetes etc.) On site gym.

### Head Chronic Pain Physios:



Michael Davis – Chermside Sports & Spinal



Nathan Craig – Woolloongabba Sports & Spinal

### Here's to 2018!



To say thanks for working with us we would like to give you, or a family member a **complementary Remedial Massage**. Simply call your closest clinic below and mention you're a local doctor and our team will happily book you in at your earliest convenience.