

Understanding Pain **With Tim Beames**

Tim Beames

A chartered physiotherapist

Runs his own company called Pain and Performance

Lectures worldwide for the Neuro Orthopedic Institute (NOI)

Co-authored a book called Graded Motor Imagery with Lorimer Moseley

NOI

The baby of David Butler

Himself a physiotherapist.

Now, interested in education.

At the time of setting-up, interested in nerves and movement of the nerves.

Evolution to realise that it's not sufficient enough to be interested in one tissue.

Essentially, it's an educational group.

Research ongoing on explaining pain and graded motor imagery

Developed courses:

Run since the early '90s.

The first one was the Mobilization of the Nervous System.

The most famous course is Explain Pain.

Part of the money that comes from the courses gets put straight back into research.

All post grad courses

A number of osteopaths attend the courses

NOI is much bigger than Pain and Performance.

Pain and Performance

2 or 3 different arms within the company.

1. Educational part
Delivering of bespoke courses.
2. Clinical Part
Many patients come in with CRPS.
3. Sports part
Different teams and organisations

Final draft to be submitted shortly.

Pain Perception

Everybody has experienced pain

People are their own experts.

Pain in research has been explored using different models.

Depending on the model, you'll refer to different elements or aspects of pain.

The Mechanistic Model

Nociceptive pain or neuropathic pain, and central sensitization

These are all examples of mechanistic understanding of pain.

Research suggests that finding a biologic substrate of pain allows one to target it with either drugs or alternative therapy.

Looking for a sign or symptom that is more likely to be found within a nociceptive pain experience versus one that you suspect is more likely to be neuropathic.

There is fantastic research behind finding biological substrates etc.

However, there is the notion that we're beginning to supersede the mechanistic understanding of pain.

Not always enough to fully understand the pain experience,

No consideration of wider impacts on life:

E.g. Working life or the impact on the family.

Models such as Biopsychosocial and Holistic would hold you in reasonable stead.

Understanding and following the former are two different things.

Usual gut-feeling amongst practitioners that the biopsychosocial approach is used with chronic or persistent pain whilst biomedical is suitable for acute pain.

Methods and models expected to evolve in the next few years.

Difficulty will be taking first-person experiences of pain and exploring them from a third-person perspective.

Either by physically testing or the understanding of language used.

A linear perspective or understanding of pain is very much input processing output.

Difficult to believe it is as simple as that.

Must be something in between contact and pain.

Embodied Cognition

As we develop, we create expectations of situations.

When expectations aren't met, it is possible that updates in understanding are needed.

Changing the context of movements or positions forces you to reconsider your expectations/predictions.

Tim's Approach to the Patient in Pain

Create an environment where they feel comfortable sharing their story

Allows two hours for an initial assessment.

Flowing conversation rather than tick list.

Flexible between time spent talking and physical examination.

After gathering so much information from screening and questionnaires, a longer appointment allows you to explore the information that you have gathered.

Share understanding to show what you can offer during the appointment.

Interest in timeframe: why might the patient be giving a historic account or looking at the future?

Training has enabled Tim to utilize various models flexibly with different patients.

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Able to explore deeper elements of pain such as the historic impacts etc.
Aided by his Master's on Pain: Science and Society.
Looking at the bigger picture- understanding biology but remaining flexible in thought.
Use of questionnaires helps create a broader picture which can help physical treatment plan.
Pain Screening Questionnaires useful and vary by patient.
E.g. CPRS validated questionnaire (Body Perception Disturbance Scale)
Difficult to judge feedback using questionnaires: benefits sometimes realized months after treatment ends.
Potential to call and ask over the phone later but results can be biased by your presence.
Whilst the psychological aspect of treatment is not enough alone, there is actually little evidence for a number of physical approaches.
Courses of treatment vary hugely.
Anything from a one-on-one group session of three hours to a group session over six weeks.
A mixture of manual therapists e.g. osteos, chiro and physios use Explain Pain approach taught by NOI.
Group sessions cost-effective but not as individualised.

Interested in understanding how a third-person perspective fits that first-person perspective of pain.

A neurosensory examination reveals how far movement activity can be explored.
Clues from light touch, pinprick evaluation, perception of touch and localization of touch.

Techniques

Often doesn't treat the type of person who responds well to manual therapy.
Usually, due to patients having very persistent pain problems.
Manual Therapy techniques used to explore/understanding and empowering of the person and their pain.
Most common techniques: Education and desensitization techniques.
Dampening the amplified nociceptive system.
E.g. Certain sensory discrimination techniques or TENS
Important to not use those techniques directly over the extremely allodynic area.
Graded Motor Imagery geared towards reengagement of that person in their life.
E.g. CRPS can lead to either complete focus or detachment from affected body part.

Graded Motor Imagery

Includes three different components:

1. Implicit Motor Imagery
Someone's ability to be able to run movement in the head without really knowing that they're making those decisions.
e.g. time taken to identify left/right body parts shown on cards
How accurate they are able to identify their body at pre-reflective level.
2. Explicit Motor Imagery
The patient knows the running movements.
Imagining movements and exploring movement used in other therapies

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such as after a stroke.

3. Mirror Therapy

Used to give an illusion of seeing a bodily part that may not be there (amputees)

Changes the bodily perception of the patient.

We maintain bodily awareness or a representation of what the body may be or the information from different body parts should be

GMI gives back some of the information that you would've expected from the body part but are not receiving.

Research by Herta Flor in Germany.

Not only is the contralateral hemisphere activated when moving their arm, but also the ipsilateral hemisphere in the somatotopic distribution of, for instance, the motor cortex is recruited as well.

As they see the reflection of the hands moving, the motor areas that we would expect to be a part of that movement are being activated but so are the ones that would be activated if that hidden hand were moving but we know it's not because it's an amputee.

Understanding of it is now changing to encompass more of how that person sees or feels or experiences themselves.

Original research was very much about brain activity and gradually increasing certain brain activity in motor areas.

Equipment

No complex set-up needed.

Foot square block of a mirror and mount it on some card.

Getting people to look at themselves and realizing they don't necessarily want to is a good first step.

There's no one approach which is effective for all.

This approach, in particular, can be very demanding to stick with.

Different types of patients, such as children.

Getting on their level, but also, they are more flexible towards imagining (Explicit Motor Imagery)

PainDETECT

A sliding scale used to detect whether somebody is more likely to be experiencing neuropathic pain.

If score suggests otherwise, possibility to question their understanding of their pain.

Array of Factors which may influence a person's perception of pain?

Anything that goes on in their internal and external environment.

There are factors which are both controllable and uncontrollable.

Whilst aspects such as economics can't be controlled, it's definitely possible to bring such aspects to the attention of the patient to help them realise that these factors might contribute to their suffering.

Understanding the stress biology is certainly an important part of understanding the patient.

The Course- Graded Motor Imagery

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Difficult to put into context without attending the course

Lasts two days

Course Structure leads to understanding.

Use of the neuromatrix model.

A biopsychosocial understanding of somebody in pain with a bias towards understanding what happens within the brain in certain pain experiences.

Some understanding of brain, brain activity, patterns, etc. Some immunology, some pain models and then go through where the different techniques fit into that understanding.

An attendee would have an introduction into Graded Motor Imagery.

‘Introduction’ because practical use and even failure leads to a better understanding.

Chronic Sciatic Pain and other ailments

Important to contextualise the issue.

Relates to the embedded cognition mentioned earlier:

E.g. Problems can involve sitting for a period of time, or dressing.

How can we change the context of these to reduce pain?

Finding the most appropriate change in context for success

Example: Putting on socks

Bending forward to put socks on is painful.

By altering the movement and positioning slightly, pain can be reduced.

Or Mentally exploring

Why is the patient worried about moving? Etc.

In the sense of an osteopathic approach, the patient fixes themselves.

The practitioner goes on a journey with them.

Tennis Elbow etc.

If something is persistent- why is the pain still there?

Use of techniques similar to above.

Migraines

Rarely treated by Tim but can follow the same holistic approaches.

Acupuncture as an adjunct

Mixed feelings on acupuncture

Some research suggests it's just a very strong placebo.

Reactions from Conventional Medicine

Not widely accepted but also not rejected.

UK Doctors are rarer to see at courses than their European counterparts.

Raising awareness through such a broadcast will hopefully raise profile.

Core Stability

‘It's a load of rubbish, isn't it?’

We are designed to be able to be fluid and flexible and to be able to move how we want.

Posture- we are designed to move.

Not to stay in a static position constantly.

Swiss ball- Not advocated by Tim but if it works, great.

Stretching

Little part in Tim's approach.

Unclear why holding a tissue in place for a period of time will be helpful unless

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needed in a job or sport.

Dynamic movement is more important to the process and all patients would have some form of exercise.

Movement in general e.g. Sliders

Specific movements that are designed to gain the most movement of the nervous system relative to the tissues with the least build up of pressure within the area.

Similar to flossing.

Tim in Sport

Tim's Master's was originally going through a screening process

Worked with the England and Wales Rugby squads.

Looked if there was a prediction of the certain measures.

6 tests were used to see whether there were changes over a period of time.

Blinded to their players and their medical history.

Went through a neurological assessment:

Neurodynamics, two-point discrimination, nerve palpation, light touch, manual muscle test and reflex testing.

Clinically significant, was that those who had had a nerve root lesion that was identified in surgery had significant changes in neurodynamics, two-point discrimination and nerve palpation.

Unfortunately, unable to follow through as research was stopped.

The teams would need to be followed over a year or two.

The sports world is beginning to question traditional screening tools.

Use of Drugs

Still an important part of the process providing it's the right medicine at the right time.

E.g. Steroid injection can be just as harmful etc.

Nutrition

Left to the experts, nutrition is very important.

Some foods will create a pro-inflammatory response or stimulate the nervous system in a certain way.