

What is Graded Motor Imagery?

GMI is a rehabilitation process used to treat pain and movement problems related to altered nervous systems by exercising the brain in measured and monitored steps which increase in difficulty as progress is made.

Who is it for?

We recommend that anybody with a chronic pain state learns more about the GMI process and talks to their clinician about options to include brain training exercises as part of a comprehensive rehabilitation programme.

The three stages of GMI:



Stage 1 Left/Right discrimination

Research shows people in pain often lose the ability to identify left or right images of their painful body part(s). This ability appears to be important for normal recovery from pain. The good news is that the brain is plastic and changeable, if given the right training for long enough. Stage 1 aims to improve the ability (speed and accuracy) and basic to abstract images to discriminate between left and right body parts and movements to prepare the brain for imagined movement. **TOOLS**

> Flashcards: hard copy cards with basic images of limb position All body parts available.

> Recognise APP (iTunes/Android): digital version of flashcards, larger bank of images (basic, vanilla, context, abstract). Speed and accuracy scores are generated for each test, but not stored.

Stage 2 Explicit motor imagery

Imagined movements (thinking about moving) can actually be hard work is you are in pain. This is most likely because 25% of neurones in your brain are 'mirror neurones' and start firing when you think of moving or even watch someone else move. The areas of the brain activated by imagined movement are similar to areas activated during actual movement. Stage 2 aims to regain patients' ability to imagine movements in order to prepare the brain for actual movement. **TOOLS**

> Flashcards: hard copy cards with 'basic' images of limb position. All body parts available – vanilla, context and abstract images unavailable in FC.

Stage 3 Mirror therapy

If you put your left hand behind a mirror and your right hand in front, you can trick your brain into believing that the reflection of your right hand in the mirror is your left. You are now exercising your left hand in the bran, particularly if you move your right hand! It is important to complete steps 1-2 before mirror therapy to prepare the brain for perceived movement illusion of mirror therapy. Stage 3 aims to trick the brain into allowing the activation of the movement areas of the brain in a graded way, thus avoiding a pain output.

> Mirror box: the portable, lightweight, fold down, durable Perspex mirror box is available from noigroup.com.

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