



Graded Motor Imagery

Information to support
your rehabilitation journey



GRADED MOTOR IMAGERY

Graded motor imagery is a treatment approach that can be used following a stroke. You have to think and visualise yourself moving your arm/leg or body part **WITHOUT** actually moving it.

This can be used in all stages of recovery even if you have no muscle activity.

HOW DOES IT WORK?

Research shows that when a person mentally practices something in their brain, certain areas of the brain tend to light up on MRI scans. We believe special nerves called “mirror neurones” are activated. By trying to make use of these mirror neurons we are aiming to stimulate parts of the brain to help it adapt and change. Specifically we are aiming for the brain to make new connections and pathways that could ultimately lead to better recovery of movement and functional task performance. This is why top athletes will imagine an activity before actually doing it.

HOW TO DO IT?

Graded motor imagery can be a 3 step process. Not everyone, however, needs to do all three components.

You should access your memory of how a movement task should look and feel, then mentally rehearse this task without actually doing it.

Step 1. Laterality training

- ❖ Being able to tell the difference between your left and right (many people following a stroke can struggle with this).
- ❖ We can use images of left and right limbs or movements to the left or right to train the brains accuracy and speed at interpreting the left and right side.
- ❖ Your therapists can show you an app on a smart phone that can be used to practice this. Alternatively your family or therapist can show you cut out pictures from magazines to help you get started.

You should aim to spend around 10 minutes a day doing this!

Step 2. Motor Imagery/Visualisation

- ❖ Here are some questions you can ask yourself to enrich the experience of this.

- ◆ Where are you?
- ◆ What is the weather like?
- ◆ How does your limb/body feel before you move?
- ◆ What are you wearing?
- ◆ What do you smell?
- ◆ Is there a feeling of rough or smooth/ big or small?
- ◆ How does it feel when you imagine it moving?
- ◆ Does it feel warm/cool?
- ◆ What do you hear?
- ◆ What kind of surface are you sitting/standing on?

- ❖ Now imagine your limb moving in all directions.
Repeat these movements 20 times.
- ❖ Now imagine yourself performing a task e.g. hanging up the washing, doing the ironing, stacking boxes onto shelves, standing up and walking.
Repeat these movements 20 times.

Step 3. Mirror Therapy

Mirror Therapy is a therapy in which a mirror is placed between the arms or legs so that the image of a moving, non-affected limb gives the illusion of normal movement in the affected limb.

Before you start, make sure you take off any jewellery, and roll up your sleeves and/or trouser legs.

- ❖ Sitting comfortably, place your affected limb behind a mirror.
- ❖ Place your non-affected limb in front of the mirror.
- ❖ Looking into the mirror at all times, begin moving your non-affected limb to perform particular movements and tasks.

Exercises can include:

1. Bend your elbow up and down, bringing your hand to your mouth.
2. Reach forwards and grasp a cup - practice a pouring action.
3. Bend and straighten your fingers fully.
4. Tap your fingers on the table as if playing the piano.
5. Touch the tip of each finger with the tip of your thumb.
6. Bring your face into full view in the mirror - stroke your face on both sides with your hand.

If you are managing these well, your therapist may then go on to advise you to try and mimic the movements performed above with the hand inside the mirror box or behind the mirror so that both limbs are working simultaneously.

Your therapist can advise you on where to start with this programme and how to make it more difficult.

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