BILATERAL ARM TRAINING

STROKE ENGINE
Last updated: 11-06-2018

What is bilateral arm training (BAT)?

Bilateral Arm Training is a type of rehabilitation that uses symmetrical (same) or alternating (opposite) movements of both arms. A stroke can disrupt the messages that are sent from your brain to your muscles; this can affect strength and movement in your arm/hand. Moving your arms during Bilateral Arm Training might send feedback to both sides of the brain (the affected and the non-affected hemispheres), which might increase brain activity. This in turn might help rebuild the side of the brain affected by the stroke, and the pathways in the brain that cause movement in the affected arm.

What is Bilateral Arm Training used for in people with stroke?/

The goal of Bilateral Arm Training is to improve strength and use of the arm that was affected by the stroke.

Are there different kinds of bilateral arm therapies?

Traditionally, Bilateral Arm Training was done by linking both hands together so that the less-affected arm helped to move the affected arm.

Variations of BAT include:

- Isokinematic BAT – identical active movements of both arms
- BAT with robotic or mechanical devices – the device drives the movement of the affected arm
- BAT with rhythmic auditory cueing – music or a metronome are used to guide arm movements
- BAT with electromyography (EMG) stimulation – an electrical stimulation is applied to the muscles of the affected arm during arm movements.

Does Bilateral Arm Training work for stroke?

The use of Bilateral Arm Training has been examined using high quality research studies. It was shown to improve arm function in some patients after stroke. In particular, BAT and BAT with rhythmic auditory cueing were useful for patients with chronic stroke (more than 6 months after stroke) to improve movement, strength and function of the affected arm. It is important to note that results can vary from person to person.

What can I expect?

During traditional Bilateral Arm Training, you will practice repetitive and intensive exercises of both arms for 1-2 hours per day, 2-5 times per week for 2 weeks or more. In addition, your occupational therapist or physical therapist might choose other types of BAT (see above) to assist in moving and strengthening the affected arm. Your therapist will discuss with you the regime and type of BAT that is most suitable for you.

Who provides the treatment?

Bilateral Arm Training is usually administered by a physical therapist or an occupational therapist at a rehabilitation centre or at an out-patient clinic.

How long is the treatment period?

Bilateral Arm Training treatment regimens vary. Sessions may range from 45 minutes to 2 hours, from 2 to 5 times per week, and for 1 to 6 weeks. On average, it is delivered for 1 hour, 3 times per week for 4 weeks.

Are there any side effects or risks?

Bilateral Arm Training is usually administered by a trained health professional at a rehabilitation clinic. Your therapist will monitor your reactions to this therapy closely. It is important to report any feelings of discomfort or pain (such as pain at the shoulder of the affected arm). Your

therapist will adjust the intensity and the duration of therapy according to your ability, endurance and progress.

Is Bilateral Arm Training for me?

Bilateral Arm Training can be of benefit to those who have lost some use of their arm following a stroke. Studies have looked at the benefit of BAT over different stages of stroke recovery (short term, intermediate, long term). Some positive research suggests that BAT may be beneficial for patients who had a stroke six or more months ago.

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