



## CONSTRAINT INDUCED MOVEMENT THERAPY

CI, or CIMT, is a form of rehabilitation therapy which forces the use of a limb affected by stroke, through the restraint of the unaffected limb. It consists of three principles: constraint of the unaffected limb, forced use of the affected limb and massed practice.

This form of therapy was developed by Dr Edward Taub, a professor of psychology at the University of Alabama in Birmingham. Dr Taub theorised that patients became discouraged from using the affected limb because they had experienced failure and frustration with that limb, a situation he described as 'learned non-use'. This continued non-use, of course, led to further deterioration of the limb.

With CIMT the limb which has full function is put into a sling or strapped to the body, 'constrained' in other words. Intensive therapy of, for example, up to six hours a day, five days a week, for three weeks, follows under strict supervision.

The most recent study of this therapy shows that there is definitely improvement using CI compared to other traditional rehabilitation techniques. Dr Taub and his team studied people who had had a stroke and had motor impairment of an upper limb, an average of four and a half years after their stroke. Half had CIMT, and half underwent the placebo therapy which consisted of a general fitness program of strength, balance and stamina training, games to provide cognitive challenges, plus relaxation exercises. Participants in the study and their carers kept a motor activity log (MAL) with which they noted movement and use of the impaired arm throughout the study. There was an average improvement of 1.8 points for those who had CIMT but no change in the control group. Up to two years later, there was a large improvement in MAL scores compared to pre-treatment scores.

PLEASE TURN OVER



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Other studies have confirmed the effectiveness of CIMT. Researchers at the Jordan University of Science and Technology published a paper recently which found that after four weeks of CIMT combined with traditional therapy, stroke-affected people showed significant improvement in self-care and mobility activities, which still remained six months later.

There is even a possibility that improvements in brain activity accompany the increased functionality of the stroke-affected limb, as shown in a study published in *Stroke: Journal of the American Heart Association*. Dr Taub says, on the American Stroke Association website, "This finding offers hope to researchers who believe it may be possible to stimulate or manipulate brain areas to take over lost function, a process known as cortical reorganisation."

It should be noted by readers that CIMT is a process which can be hazardous for people who have had a Stroke unless it is part of a supervised rehabilitation program. Even fully-able people are more at risk of fall or injury when a limb is restricted or restrained, and Stroke-affected people are already at increased risk simply because of their Stroke. In other words, "Don't try this at home".

You can see CIMT in action on You Tube. Go to [www.youtube.com/watch?v=MMTh2hWvB2g](http://www.youtube.com/watch?v=MMTh2hWvB2g)

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