Constraint Induced Movement Therapy

Patient information

What is Constraint Induced Movement Therapy(CIMT)?

CIMT involves wearing a mitt on your strong hand. This will encourage you to use your weaker one more, helping it to recover. You will wear the mitt for exercises and everyday tasks. Evidence shows CIMT is an effective rehabilitation approach. It is recommended in the National Clinical Guideline for Stroke (2023).



How does it work?

After a neurological injury such as a stroke, you may stop using your affected arm even when there is potential for movement. This is called learned non-use. When you stop using your weaker arm for tasks, it will not improve.

CIMT works by undoing learned non-use. Wearing a mitt on the stronger hand will encourage you to use your weaker arm. This will help you use it to improve it.

What am I expected to do?

CIMT is an intensive rehab approach, usually delivered over 3 weeks. You will be expected to wear the mitt for 6 hours a day and complete tasks with your weaker hand.

| CIMT component | Time spent daily during mitt wearing hours | |
|----------------------------|--|---|
| Daily living with the mitt | 4 hours | Try as many routine tasks as you can with your weaker arm |
| Task practice | 1 hour | Practice 3-4 daily tasks for 15-10 minutes continuously (each task) |
| Shaping practice | 1 hour | Practice 3 exercises daily Use shaping score sheets |

To set up your CIMT program you will discuss with your therapist

- how much you use your weaker arm and how well it moves.
- your goals
- a schedule of mitt wearing (aiming for 6 hours a day)
- tasks when the mitt should be worn and when it should be removed
- exercises for you to complete, including functional 'task practice' (i.e. whole tasks) and 'shaping tasks' (task broken down and working on specific weak muscles).

Your therapy team will have regular check in sessions (face to face, virtual, phone or text)

Why wear a mitt?

Wearing a mitt on your stronger arm reminds you to use your weaker arm. Lots of practice and trying new things will improve your ability to use your affected arm.

Try to resist the temptation to take the mitt off outside planned rest periods. Evidence shows people make greater improvements when they commit to wearing the mitt.

The CIMT program is focused on using your weaker arm in as many daily activities as possible. The more you use your arm, the more potential there is for change (neuroplasticity).

You can try various household items as a mitt, e.g. oven glove, winter glove, thick sock, or tubi grip.

Safety is always top priority - NEVER USE YOUR WEAKER ARM IF YOU THINK YOUR SAFETY COULD BE AFFECTED IN ANYWAY

Please remove your mitt during the following tasks:

- Indoor and outdoor steps and stairs
- When using a walking aid
- Holding /pouring hot water
- Holding hot food e.g. oven/microwave
- Using sharp knives/implements

- Driving/operating machinery
- Using power tools
- Smoking
- Injecting medications
- Handling any type of hot objects e.g. ironing

Daily schedule

Example:

| Time | Activity | Mitt ON | Mitt OFF |
|---------|---|---------|----------|
| 7.30am | Wake up and shower | | X |
| 8am | Dress, brush teeth and make bed | X | |
| 8.30am | Prepare breakfast and eat it | X | |
| 10am | Shaping tasks (1 hour) | X | |
| 11am | Rest time | | X |
| 11.30am | House chores e.g. laundry, hoovering, dusting | X | |
| 12pm | Prepare lunch, set table | X | |
| 12.30pm | Eat lunch with affected hand, clear away lunch | X | |
| 1pm | Rest | | X |
| 2pm | Task Practice (1 hour) (3 or 4 tasks for 15 mins each) | X | |
| 3pm | Rest | | X |
| 3.30pm | House chores/gardening | x | |
| 5pm | Set table for dinner, eat dinner | X | |
| 6pm | Rest | | X |

Please complete what your daily schedule might look like?

| Time | Activity | Mitt ON | Mitt OFF |
|---------|----------|---------|----------|
| 7.30am | | | |
| 8am | | | |
| 8.30am | | | |
| 9am | | | |
| 9.30am | | | |
| 10am | | | |
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| 4pm | | | |
| 4.30pm | | | |
| 5pm | | | |
| 5.30pm | | | |
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| 6pm+ | | | |
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Mitt On and Mit Off Activities

What activities do you think you could do with mitt on +/- help and what tasks would you take it off for? Please add any additional tasks

| Routine Daily Activities | Mitt on no help | Mitt on with help | Mitt off |
|---|--------------------|----------------------|----------|
| Dressing / undressing | | | |
| Flushing the toilet | | | |
| Showering / bathing/ washing hair you can take mitt off but complete task with weaker hand. To make it easier you could sit down. | | | |
| Brushing your teeth | | | |
| Eating with cutlery | | | |
| Laying the table, putting things away | | | |
| Eating finger food | | | |
| Drinking from a cup - could you use a safer cup e.g. lid, sports bottle | | | |
| Opening food packaging/jar/bottle | | | |
| Wiping down surfaces, washing and wiping up | | | |
| Turning on a light | | | |
| Picking items out of a drawer | | | |
| Picking up and using phone | | | |
| Opening/closing doors/cupboards | | | |
| Additional tasks identified: | _ | | |
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Role of the supporter (e.g. family, friend or therapist):

You will take a 'hands off' approach as much as possible during tasks. You may be needed to help set up tasks, recording scores and feeding back progress.

You can help make the program a success by

- Providing encouragement and look for positives in activities.
- Suggest different ways to make the task more achievable
- Celebrate achievements

Goals

CIMT works best when the program is specific to you. What would you like to achieve? This will help shape your CIMT program.

Goals may be things such as using cutlery, a screwdriver, putting on your socks, being able to brush your hair or using your phone or computer

My goals are:

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| 2) | |
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| 3) | |
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Measuring changes during the program

It is important for you to see and acknowledge change during the program. This could be done by

- Video recording yourself before and during the program and comparing them
- Counting how many times you can do a task in a minute
- Counting how many times you are successful in a shaping task
- We will complete formal outcome measures (9 Hole Peg Test and Box and Block Test)
- Using your affected arm more in everyday tasks. We will use a questionnaire to monitor this (MAL 30) see next page
- Achieving your goal/s!

Motor Activity Log - MAL (30)

During the last week please rate 'how often' and 'how well' you used your weaker arm in the following activities using the scoring below. If your weaker arm was not used please use the codes A-E below.

| | | Amount Score 0-5 | How Well Score 0-5 | If not used why? Use code A-E or comment |
|----|--|------------------------|--------------------------|---|
| 1 | Turn on a light with a light switch | | | |
| 2 | Open a drawer | | | |
| 3 | Remove an item of clothing from a drawer | | | |
| 4 | Pick up phone | | | |
| 5 | Wipe off a kitchen counter or other surface | | | |
| 6 | Get out of a car (the movement needed to go from sit to stand whilst door is open) | | | |
| 7 | Open refrigerator | | | |
| 8 | Open a door by turning the door knob/handle | | | |
| 9 | Use a TV remote | | | |
| 10 | Wash your hands (lathering and rinsing hands) | | | |
| 11 | Turning water on/off with knob/ lever on faucet | | | |
| 12 | Dry your hands | | | |
| 13 | Put on your socks | | | |
| 14 | Take off your socks | | | |
| 15 | Put on your shoes (includes tying shoe laces/ fastening Velcro) | | | |
| 16 | Take off your shoes (includes untying shoe laces/Velcro) | | | |
| 17 | Get up from a chair with armrests | | | |
| 18 | Pull chair away from table before sitting down | | | |
| 19 | Pull chair toward table after sitting down | | | |
| 20 | Pick up a glass/bottle, drinking cup or can (does not include drinking from it) | | | |
| 21 | Brush your teeth | | | |
| 22 | Put on make up base, lotion or shaving cream on face | | | |
| 23 | Use a key to unlock a door | | | |
| 24 | Write on a piece of paper | | | |

| 25 | Carry an object in your hand (draping an item over the arm is not acceptable) | | |
|----|---|--|--|
| 26 | Use a fork or spoon for eating | | |
| 27 | Comb your hair | | |
| 28 | Pick up a cup by the handle | | |
| 29 | Button a shirt | | |
| 30 | Eat half a sandwich or finger food | | |
| | Total Score | | |
| | Final Score = Total Score/number of tasks | | |

Grading Scales (note: can use 0.5 marks if in between scores)

Amount Scale

- 0 Did not use my weaker arm (not used).
- 1 Occasionally used my weaker arm, but only very rarely (very rarely).
- 2 Sometimes used my weaker arm but did the activity most of the time with my stronger arm (rarely).
- 3 Used my weaker arm about half as much as before the stroke (half pre-stroke).
- 4 Used my weaker arm almost as much as before the stroke (3/4 pre-stroke).
- 5 Used my weaker arm as often as before the stroke (same as pre-stroke).

How Well Scale

- 0 The weaker arm was not used at all for that activity (never).
- 1 The weaker arm was moved during that activity but was not helpful (very poor).
- 2 The weaker arm was of some use during that activity but needed some help from the stronger arm or moved very slowly or with difficulty (poor).
- 3 The weaker arm was used for the purpose indicated but movements were slow or were made with only some effort (fair).
- 4 The movements made by the weaker arm were almost normal, but were not quite as fast or accurate as normal (almost normal).
- 5 The ability to use the weaker arm for that activity was as good as before the stroke (normal).

Possible Reasons for Not Using the Weaker Arm for the Activity:

- Reason A. "I used the unaffected arm entirely."
- Reason B. "Someone else did it for me.".
- Reason C. "I never do that activity, with or without help from someone else because it is impossible." For example, combing hair for people who are bald.
- Reason D. "I sometimes do that activity, but did not have the opportunity since the last time I answered these questions."
- Reason E. "That is an activity that I normally did only with my dominant hand before the stroke, and continue to do with my dominant hand now."

CIMT Participant Contract

I

have been provided with and read the CIMT participant pack describing CIMT program.

By marking the following boxes with an 'X' I understand and agree that the CIMT program involves me to do the following:

Wear a mitt for 6 hours a day, 5 days a week for 3 weeks. This is to encourage me to use my weaker hand

To make a real effort to use my weaker arm as much as possible during mitt wearing hours, as long as it is safe to do so

To practice using my weaker hand in structured training tasks (task specific and shaping tasks) for a total of 2 hours a day

To undertake tasks that are challenging and use my affected hand as much as possible to problem solve in-order to complete the task

Keep a record of shaping task results to demonstrate my progress

I understand and agree that I will:

| Not wear the mitt during activities if my safety could be affected | |
|---|--|
| Not use my weaker arm in a task if my safety could be affected in any way | |
| Not undertake activities on my 'mitt removal list' | |
| Accept help from my supporter in certain activities whilst wearing the mitt. Also to decline help from supporter for tasks I have agreed to work on with my weaker arm. | |
| Provide regular feedback to my therapist on how I am feeling about the program and any difficulties or pain | |
| Make a plan for on-going use of my weaker arm after my CIMT program is complete | |

I have been given the contact details of who to contact during the CIMT program and I am aware that I can withdraw from the program at any time without it impacting on future therapy care.

Name of participant:

Signature of participant:

References

- www.telecimt.com TIDE (TeleCIMT International DEvelopment) Group 2020
- National Clinical Guideline for Stroke for the UK and Ireland. London: Intercollegiate Stroke Working Party; 2023 May 4. Available at: www.strokeguideline.org.
- Stroke Rehabilitation in Adults. NICE guideline: October 2023. Recommendations | Stroke rehabilitation in adults | Guidance | NICE .



This leaflet has been written in collaboration with: University Hospitals Dorset NHS Foundation Trust Dorset HealthCare University NHS Foundation Trust Dorset County Hospital NHS Foundation Trust

