**How to Administer Bilateral Training**

1. A bilateral training programme should be tailored to suit your patient’s goals and interests. Please refer to the BEST Study Clinician Goal Setting information sheet. Once your patient has identified their upper limb goals, you can collaboratively develop activities that work towards these goals.

2. Bilateral training is closely linked to repetitive task specific training so it may be useful to refer to the BEST Study’s guide for repetitive task specific training.

3. Clinicians should complete a task analysis before commencing bilateral training in order to assess the patient’s ability to complete task steps and to identify any deficits the patient may have. Clinicians should grade activities appropriately.

4. Develop a program that incorporates 2-3 tasks to practice in one session. Grade these tasks according to the patient’s ability.

   - Bilateral activities can be graded to challenge arm and hand function specific to components of movement that are impaired (e.g., Grasp and release, alternating pronation and supination, combination of shoulder abduction and elbow extension)

   - Tasks can be performed repeatedly with increasing challenge for patients to increase the number of repetitions completed or keep the number of repetitions consistent but attempt to complete them within a shorter period of time.

5. Set patient up at a table or in a comfortable position. A pillow behind the patient’s back can provide more support. Also using a mirror will provide visual feedback and prompt the patient to maintain their posture.

6. Complete a series of activities that use both arms.

7. If the affected arm has little or no movement, physical assistance may be required (from a therapist or carer) to participate in each bilateral action. Examples of assistance include:

   - Hands on assistance from a carer or therapist i.e. therapist/carer holds patient’s affected arm and hand to reach and grasp a drink bottle. Therapist/carer maintains grip over patient’s hand while patient holds drink bottle with affected hand and opens drink bottle with their non affected hand.

   - External aids – adaptive equipment i.e. built up grips. Build up end of rolling pin with foam to enable affected hand to grip end of rolling pin. Built up cutlery or crochet needles.

   - ESTIM machine to facilitate active movement in the affected arm i.e. ESTIM for wrist and finger extension to enable grasp around drink bottle.

8. Consider other forms of assistance based on your patient’s deficits. For example of the patient has an apraxia – verbal cues, start with simple movements, provide time to practice tasks before changing to a new task might help. Neglect – provide visual and/or verbal cues to direct attention to the neglected side of the body.
EXAMPLES OF ACTIVITIES

SYMMETRICAL IN-PHASE

• Lifting a box or object using both hands
• Rolling a ball across a table and catching it using both hands
• Throwing a ball and catching it using both hands (could be completed against a wall by themselves)
• Pushing a cart/walker
• Folding a towel
• Using a rolling pin to roll out dough
• Wiping down a table using both hands on the cloth
• Mixing ingredients – both hands holding the spoon to stir (stabilise the bowl with assistance from others or a non slip grip)
• Opening packets
• Packing away dishes
• Using a golf putter

SYMMETRICAL ANTI-PHASE

• Video games
• Knitting, crocheting, sewing
• Typing on a key board using both hands
• Stacking objects – left and right hand alternating between stacking the objects
• Ripping paper in half
• Folding clothes
• Musical instruments i.e. alternating hands playing the drums
• Patient rolling a ball between their hands

ASYMMETRICAL

• Hanging washing on the line
• Opening a jar/bottle
• Tying shoe laces
• Wringing out a towel/cloth
• Pour a glass of water – one hand pouring the water, the other hand holding the glass off the table
• Mixing ingredients – one hand holding the bowl, the other hand stirring
• Threading beads on a piece of string
• Drying dishes
• Doing up/undoing screws
• Using cutlery

HOW MUCH?

The National Stroke Guidelines recommend as much therapy as possible with a minimum of one hour practice per day for at least five days a week. The Guidelines also recommend upper limb training should commence early with interventions should begin in the first week after stroke.

Higher levels of intensity have also been recommended, for example two hours a day, three days a week for four weeks with a therapist; complemented by a home program of at least 2 hours per day

Reference