Bilateral training involves movement patterns or activities performed with both hands simultaneously, but independently from each other. These activities can be:

1. Symmetrical in-phase (both arms moving in the same direction at the same time i.e. lifting a box, throwing and catching a ball with both hands)

2. Symmetrical anti-phase (arms moving in the opposite direction i.e. typing on a computer, climbing a ladder)

3. Asymmetrical (Complementary movements i.e. sewing, opening a bottle/jar).

### National Stroke Foundation Guidelines

6.3.5 Upper Limb Activity

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a) People with difficulty using their upper limb(s) should be given the opportunity to undertake as much tailored practice of upper limb activity (or components of such tasks) as possible. Interventions which can be used routinely include:

b) one or more of the following interventions can be used in addition to those listed above:

- Bilateral training

Bilateral training is often combined with other interventions such as electrical stimulation or assistive technology to assist the affected arm to undertake the simultaneous movements.

### IS THIS SUITABLE FOR THE CLIENT?

#### TARGET IMPAIRMENT

- Motor impairment
- Sensory-motor impairment
- Neglect (limited evidence)

#### STAGE OF RECOVERY

Appropriate for all stages of recovery.

#### SEVERITY OF IMPAIRMENT

Appropriate for all levels of severity of motor impairment

* range of bilateral movements may be restricted in patients with severe spasticity or contractures
WHAT RESOURCES DO I NEED?

**EQUIPMENT:**
Items to use: everyday items depending on the activities e.g. medium size light ball, jar/bottle, towel, rolling pin etc

Electrical stimulation machine (Optional) *If affected arm needs assistance to perform active movement. If using stimulation, please refer to the guidelines offered in The BEST study.*

**SUPPORT:**
Carer assistance may be needed to set up the tasks and/or to provide assistance to the affected arm to perform some movements.

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**BILATERAL TRAINING RECEIVES AN AMBER LIGHT CONSIDERATIONS**

Assistance may be required for patients who have no active movement in their affected arm to enable the affected arm to undertake the simultaneous movements, i.e. hand over hand assistance or electrical stimulation.

Patients with severe impairments in vision, perception and/or cognition may require extra assistance. These impairments could impact on the outcomes of the intervention.

Severe spasticity and contractures limit arm movements therefore consider addressing these issues before attempting bilateral training.

Potentially appropriate for patients with sensorimotor deficits and neglect, however there is no evidence to suggest improvements specific to these deficits will be made.

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**ADDITIONAL RESOURCES**


