

# Limb Weakness or Paralysis

## What causes limb weakness/paralysis?

Damage to the area of the brain responsible for moving muscles can cause weakness or paralysis. Brain injuries on the left side of the brain affects the right side of the body and brain injury on the right side of the brain will affect movement on left side of the body.

Some medical terms you may need to know:

- Hemiplegia is weakness on one side of the body.
- Hemi-paralysis the inability to move on one side of the body.
- Spasticity is when muscles become tight, this could lead to permanent tightening of the muscles also known as contractures.

Fortunately our brains can rebuild themselves and recover, this is known as neuroplasticity. Neuroplasticity can also help with the recovery of muscles, including limb weakness or paralysis.

## Effects on individuals with a brain injury

Depending on how severe the weakness is, a person with a brain injury who has weakness or paralysis may have difficulty walking, putting on clothes, bathing, preparing meals, driving a car, or working. When one arm and/or leg is affected and not performing the way it should be, it can lead to stress, anxiety, and frustration, particularly when the person's dominant side is affected.

## What does recovery look like?

Typically, when a person has a brain injury resulting in limb weakness or paralysis, they will receive rehabilitation services. The primary therapies to address these issues are occupational, speech and physical therapy. Try to use the limb that is weaker as much possible. It is not unusual that a person may have to stop and re-start therapy over the course of time.

## Some strategies that can be used at home include:

- **Encourage the use of both hands** (e.g., assist the affected/"weak" hand with turning on the faucet when washing hands).
- **Wear splints** if recommended by the occupational therapist.
- **Sit in front of a mirror** and have the person look at himself/herself while performing an activity that uses both hands (such as getting dressed or putting on makeup).
- **Put weight through the affected limb** (e.g., with help from a loved one, put the affected hand on the table and lean over to bear weight in that arm; or push into the affected leg when standing while holding onto a walker or stable object).
- **Utilize a walker or cane** if recommended by a physical therapist.
- **Exercise daily** to continue to strengthen the connection between the brain and the muscles.
- **Repeat activities.** When retraining the brain, repeating activities multiple times encourages the neurons to reconnect in those areas of the brain. (e.g., squeezing/releasing a rag when wiping the table; or buttoning/re-buttoning a shirt multiple times).
- **Practice mindfulness every day.** Close your eyes and visualize moving the affected arm/leg through a certain movement or while performing a certain task. Take deep breaths throughout.

Who to connect to for support:

Adjusting to life after a brain injury can be challenging. At the Brain Injury Association of Virginia, our trained experts are available to speak with you about your experience, answer your questions, and connect you with the best resources to meet your needs. Our services are free and confidential.

**To get in touch:  
Call 1-800-444-6443  
Visit [biav.net](http://biav.net)**

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