Brunnstrom Stages of Stroke Recovery

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Understanding the Brunnstrom stages of stroke recovery will allow you to identify where you are in your stroke recovery timeline and foresee what obstacles you'll face (and overcome!) on the road to recovery.

In the model, you'll see spasticity referenced quite frequently, so we'll begin with a brief definition and then move onto the Brunnstrom stages of stroke recovery.

Spasticity Explained

Spasticity involves any of the following conditions: impaired muscle movement, muscle stiffness, muscle spasms, and limited coordination.

Spasticity is a common side effect of neurological injury caused by the new miscommunication between the central nervous system and muscles. The best treatment for spasticity is rehab exercises.

Although exercise is probably the last thing you want to do with stiff muscles, it's the only way to retrain the brain and repair that communication between the brain and muscles.

Now let's move on to the Brunnstrom stages of stroke recovery.

Stage 1: Flaccidity

No movement in the affected muscles

Flaccidity is a condition characterized by muscles weakness or paralysis. In the beginning of your motor recovery, you will start off with a certain degree of flaccidity in your affected muscles caused by the stroke or other neurological injury. At this point, active movement of the affected muscles isn't possible.

Stage 2: Spasticity Is Present

Passive movement and spasticity occur

Then, a small amount of movement seeps in. During the second stage of motor recovery after stroke, a small amount of movement is recovered, usually as passive movement or response from stimuli (like TENS therapy). No voluntary movement is present.

Stage 3: Spasticity Increases

Active movement and spasticity occur

During the next stage of stroke recovery, movement continues to increase (while spasticity comes to a peak) and difficult, voluntary movements start to emerge. At this point, you've been diligently performing your rehab exercises and your brain is effectively relearning how to communicate with your muscles.

Stage 4: Spasticity Decreases

Significant motor control emerges

We're halfway through the stages and things are starting to look promising. At stage 4, muscle control increases and movement starts to become easier. Some abnormal movement still occurs, but spasticity has significantly decreased.

Stage 5: Spasticity Wanes

Complex movement develops

At this stage, spasticity continues to decrease and muscle control increases. You can start to make complex movements on your own.

Stage 6: Coordination Reappears

Spasticity is no longer present

Then, spasticity disappears completely and coordination rapidly improves. Complex coordinated moves are almost fully restored and a full recovery is within sight.

Stage 7: Normal Function Returns

Full control of muscle movement is restored

This is when you do your happy dance. You've been consistently performing your rehab exercises and now complex movement patterns are fully restored. You can move again with normal timing, coordination, strength, and endurance.

If you want to reach the final stage, we encourage you to read our unconventional guide on how to recover from stroke and stroke paralysis treatments.

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