

# How to Reverse Painful Contractures After Stroke

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Contractures after stroke are often painful side effects. Today, you'll learn why contractures happen, and how you might actually be making them worse. But don't worry! We'll also teach you 3 steps to heal your contractures – that way your muscles can relax again.

Let's dive straight in.

## Understanding Your Contractures After Stroke

Contractures are characterized by extreme stiffness in the muscles, joints, or connective tissue that limits your range of motion. Contractures are an advanced stage of **spasticity**, a condition where muscles become stiff and tight after stroke. For example, if you had spasticity in your hand after stroke, and things continued to worsen, your hand might curl and clench into a tight fist, resulting in a hand contracture.

To understand treatment for contractures, you need to understand spasticity.

# Spasticity 101: Why You Can't Relax

Normally your muscles are in constant communication with your brain about how much tension they're under. To prevent your muscles from tearing, your brain continuously sends out messages telling your muscles when to contract and relax.

When stroke damages part of the brain that controls your muscles, your brain cannot tell you muscles when to contract or relax. Your muscles then remain in a state of constant contraction in order to protect themselves. This is what leads to spasticity. And if you don't do anything about it, spasticity can worsen into contractures after stroke.

## Things that Worsen Contractures after Stroke

**The main reason why spasticity worsens to the point of contracture is *neglect*.** When you neglect to use your affected muscles, your brain gets less and less stimulation from those muscles. If you continue to neglect these muscles, your brain will eventually get to a point where it completely forgets how to use them. This is a condition known as **learned-nonuse**, and it's a vicious cycle.

Here's what the vicious cycle might look like for you:

## Use It or Lose It

Let's say that you developed spasticity in your right arm after stroke. Because you didn't know about **the importance of exercise after stroke**, you started to rely on your non-affected arm to do most things. As you continued to neglect your right arm, the spasticity continued to worsen. Your right hand might even start to curl inward. This made you want to use your right arm even less, so you begin to do *everything* with one arm.

After many months of this, the spasticity in your right arm stiffened into tight, painful contractures. Does this sound familiar? Luckily there's a way to turn things around. There are 3 main steps to treating contractures after stroke.

## Step 1: Gently Stretch Contractures After Stroke

The first thing you want to do is give your affected muscles some gentle stretching. *Very gentle* stretching. Stretching will help stimulate your brain and get your muscles to relax a little. For example, if you are dealing with hand contractures, then you can spend some time each day gently stretching your hand out on your thigh.

While this will not instantly make your contractures better, it can help slowly increase your range of motion. Sometimes stretching is too painful when contractures are advanced. If this is the case for you, then you might want to consider Botox injections.

**Botox helps relieve spasticity** and contractures by *temporarily* relaxing your affected muscles. Know that this is only temporary, though.

Step 2 will help you turn that temporary relaxation into permanent results.

## Step 2: Rewire Your Brain to Reverse Contractures

Once you begin to stretch and relax your affected muscles a little, you can begin rehab exercise. **Rehab exercise is the most important part of treating contractures after stroke. This is how you will see lasting results.** The purpose of rehab exercise is to activate neuroplasticity and rewire the brain. The more you practice your exercises, the better your brain will get at controlling those muscles.

The stimulation you send to your brain will trigger new neural pathways, and eventually your brain will get back into communication with your affected muscles. Eventually, when your brain says “relax!” your muscles will finally hear it. And as your brain regains control of your muscles, it can finally tell your muscles to relax!

## Step 3: Start with Passive Exercise

It’s likely that you won’t be able to exercise your affected muscles because the contractures will severely limit your movement. At this point, you can begin with **passive exercise**, where you assist your affected side with your non-affected side. Although you aren’t “doing it yourself,” you’re still activating neuroplasticity and rewiring your brain.

With enough passive practice, some movement will seep into those muscles and – after quite a lot more practice – you will be able to exercise actively (i.e. doing it without assistance). Here’s an example of how this works:

## Reconnecting Mind to Muscle

Let’s continue the example from above where your right hand is affected by spasticity and contractures. Now that you know the importance of stretching and rehab exercise, you begin to stretch daily. Once your hand opens up a bit from the stretching, you begin doing daily hand exercises. Although they are very difficult at first, you do them passively at first and keep practicing daily for 2 weeks.

**You notice that after 2 weeks of exercise, your hand is actually starting to loosen up. That’s because the repetition from your rehab exercise has started to reconnect mind to muscle.** Your brain is saying “relax,” and your muscles are finally getting the message. Encouraged by your results, you continue to exercise your hand on most days – maybe taking one day off for rest. In a few months, your contractures have significantly gone down, and now you can begin active hand exercises.

## Patience

Does that scenario give you hope? The key to recovery is repetition and consistency. The more consistent you are with your practice, the faster you will recover.

**We are confident that if you stick to a daily stretching and passive exercise regimen, you will see results quickly. It won’t come all at once, but results will come.**

Stay hopeful about your potential to heal your contractures after stroke!

## Summary: Healing Contractures After Stroke

Contractures are extremely stiffened muscles that happen when spasticity worsens after stroke, often through neglect. You can begin to loosen up your contractures with daily stretching and passive exercise. The passive exercise is extremely important because it will activate neuroplasticity and reconnect mind to muscle.

In time, your brain will regain some control of your affected muscles and tell them to relax. The more consistent you are with your practice, the better your results will be.