

# Welcome To

## NEURO PHYSICAL THERAPY & SPORTS MEDICINE, LLC

ALS is an always fatal neurodegenerative disease in which a person's brain loses connection with the muscles.



## Do You Suffer From ALS?

Amyotrophic Lateral Sclerosis is a progressive neurodegenerative disease that disrupts nerve cells in the central nervous system (brain and spinal cord). Motor neurons travel from the brain to the spinal cord and to the muscles throughout the body. The progressive degeneration of the motor neurons in ALS eventually leads to their atrophy. When the motor neurons die, the brain can no longer initiate and control muscle movement. When voluntary muscle action is progressively affected, devastating symptoms arise.

When an individual suffers from ALS, the motor neurons that control voluntary movement and muscle management become dysfunctional. Voluntary movement consists of conscious effort, like reaching for a beverage or dancing to music. These actions are controlled by the muscles in the body that are impacted by ALS.

## ALS Facts

If you or someone you know is diagnosed with ALS, it is beneficial to understand the illness to the best of your capabilities.

90% of cases occur without a family history.

Onset is usually between the ages 40 to 70 years.

Life expectancy is 2 to 4 years.

Currently, there is no cure for ALS.

Outside Triggers may include:

- Smoking
- Contact with toxins
- Military service
- Intense activity
- Lines of work that often involve some kind of contact with pesticides, metals, and chemicals
- Where you live

# Signs & Symptoms of ALS

Signs and symptoms of ALS can be identified by early onset of symptoms such as muscle twitches in the arm, leg, shoulder, or tongue, muscle cramps tight and stiff muscles (spasticity).

As the disease progresses, muscle weakness and atrophy spread to other parts of the body. Individuals may develop problems with moving, swallowing (dysphagia), speaking or forming words (dysarthria), and breathing (dyspnea).

## Head and neck symptoms<sup>7,8</sup> (bulbar)

- Impaired speech
- Excess saliva
- Difficulty swallowing

## Upper body symptoms<sup>7,9</sup>

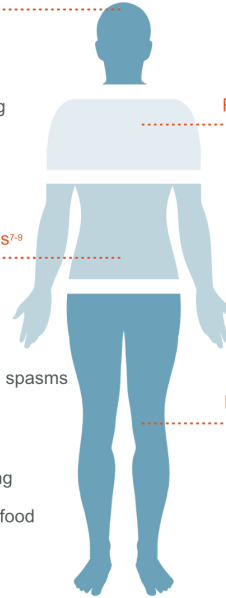
- Hand weakness
- Limited range of motion
- Upper body muscle spasms
- Trouble with dressing/hygiene
- Impaired handwriting
- Difficulty preparing food

## Respiratory symptoms<sup>7,10</sup>

- Shortness of breath
- Restricted breathing
- Difficulty sleeping

## Lower body symptoms<sup>8,9</sup>

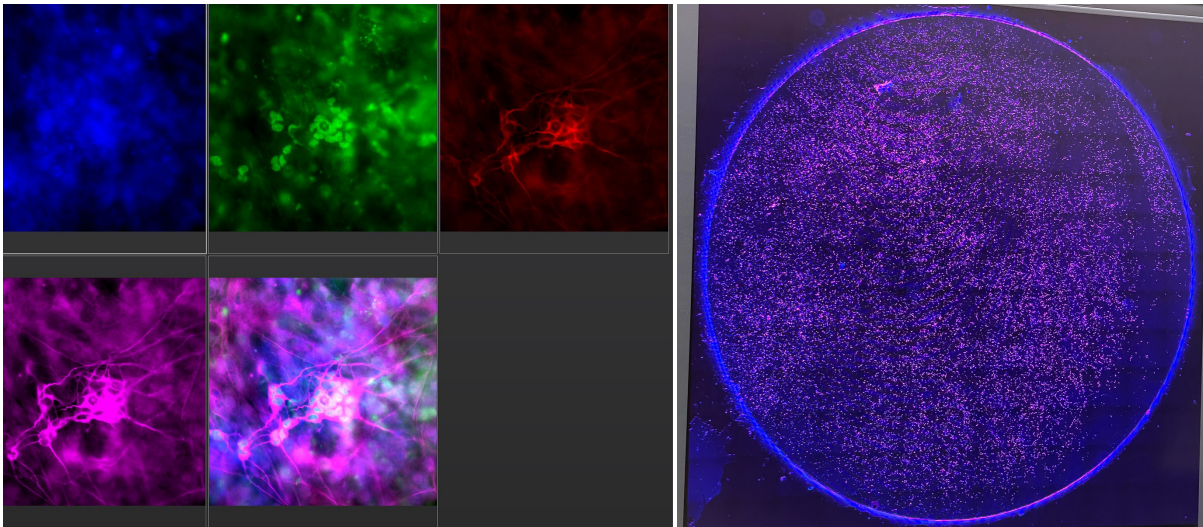
- Frequent tripping
- Difficulty on stairs
- Weak feet



## Familial vs. Sporadic ALS

The term "familial" ALS means that there is more than one occurrence of the disease in a family. The term "sporadic" applies when there is no known history of other family members with the disease. The term "genetic" can apply to both familial and sporadic ALS. In some sporadic cases, the family history may not be known. In others, parents may have died before showing signs of the disease. In still others, an ALS-causing genetic mutation may not have been present in either parent but may have occurred for the first time in the person with the disease. Once an ALS-causing mutation has occurred in someone, his or her children can inherit it, and their disease would be considered "familial." At least 25 different gene sequences are thought to harbor ALS-causing mutations. 90% of ALS cases are sporadic with no clear genetic linkage. However, the remaining 10% of cases show familial inheritance.

Source: Muscular Dystrophy Association



Source: Fallini Lab at University of Rhode Island

## STEM Cell Research For ALS

Stem cells can be thought of as cells that are in the very early stages of development, before they become specialized (differentiated) to perform specific roles in tissues. They may be precursors to a specific cell types (such as muscle or nerve cells), or they may still retain pluripotency the ability to develop into any cell types.

Stem cell research is an evolving field that may potentially benefit people affected by neuromuscular disease. There are many different types of stem cells used in biological research.

## How We Can Help

Some symptoms of Amyotrophic Lateral Sclerosis can be reduced through treatment by a physical therapist. Physical therapy can help patients with ALS adjust to their physical disabilities and lead more fulfilling lives. Physical therapy can also help relieve pain and delay the loss of mobility.

At Neuro Physical Therapy, our physical therapists approach ALS by providing moderate-intensity exercises, and activities to improve balance and coordination. We also focus on safety precautions such as bracing to protect injured nerves or to help you move safely and provide patient education on how to safely manage ALS.