

# ALS AMYOTROPHIC LATERAL SCLEROSIS

MOTOR NEURONS IN THE BRAIN AND SPINAL CORD DEGENERATE IN ALS, WHICH IN TURN LEADS TO LOSS OF MUSCLE FUNCTION.



Patients to lose the ability to:

- SPEAK**
- SWALLOW**
- WALK**
- GRAB OBJECTS**
- MOVE**
- BREATHE**

By 2040, ALS incidence is predicted to increase worldwide by 70%.

**There is no cure.**  
**ALS is always fatal.**



Every

**90 min**

someone is diagnosed and passes from ALS

**90%** of cases occur without a family history

Onset is usually between the ages

**40 & 70 years**



Life expectancy is

**2 to 4 years**

## Who Gets It

Veterans have **2x** the incidence of ALS compared to others.

The Midwest has the highest prevalence of ALS in the US and rates in Michigan almost doubled over 10 years.



Persistent organic pollutants, like pesticides



ALS risk

ALS survival

## ALS / Immune System

**NEUTROPHILS:** Higher levels of these immune cells associate with rapid ALS progression.

**CD4 T Cells:** These cells guide other types of immune cells and large decreases in their numbers is associated with disease progression.

**NK Cells:** Cells that clean out diseased or dead cells in healthy people. In ALS patients, they become dysregulated and begin to attack healthy motor neurons.