

MIPHA CLUB MARCH MEETING

AMYOTROPHIC LATERAL SCLEROSIS

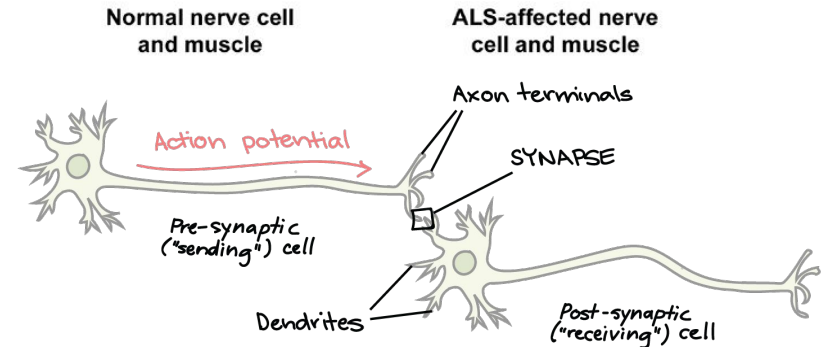
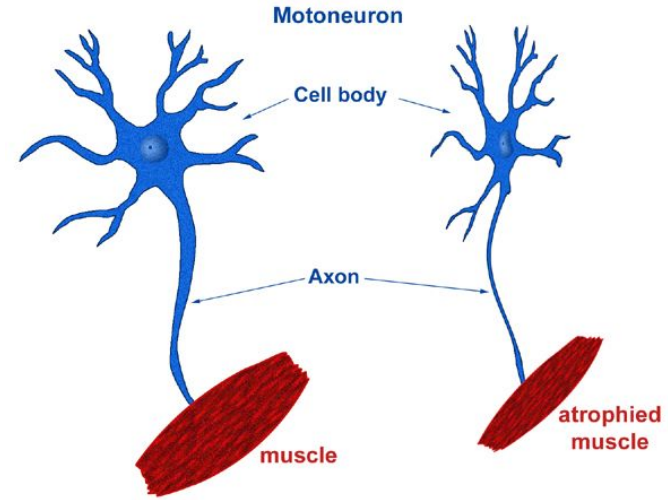
DANIEL LIN



ABOUT AMYOTROPHIC LATERAL SCLEROSIS

Amyotrophic Lateral Sclerosis (ALS)— a progressive neurodegenerative disorder caused by the death of motor neurons (the precise cause of neuron death is unknown)

- Cause is unknown
- No exact procedure or test to diagnose ALS
 - Diagnosed through clinical examination, a series of diagnostic tests, and symptoms
 - Generally depends on clinical symptoms from damage to upper and lower motor neurons
- Many of the patient's symptoms are also known symptoms of ALS
 - Symptoms include: muscle spasticity (tight and stiff), muscle weakness, muscle atrophy (shrinking), difficulty doing normal activities



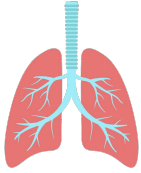
Patient Symptoms

- Muscles in hands
and feet are
weak
- Muscle twitches
- Delayed movements
- Tripping and
stumbling
- Trouble speaking



Patient Prognosis

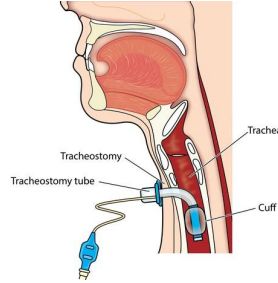
As ALS progresses, future complications can arise and may include:



01

Breathing problems

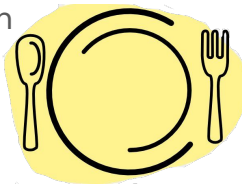
- ALS paralyzes the muscles you use to breathe
- A bilevel positive airway pressure (BiPAP) device
- A tracheostomy to allow for full-time of a respirator



03

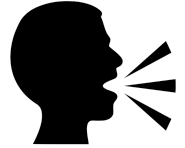
Eating Problems

- Develop malnutrition and dehydration
- Greater risk of pneumonia
- Possible solution → a feeding tube



02

Speaking Problems



- Majority of people with ALS develop speaking problems
- Begins with mild slurring of words but progresses to incomprehensible speech
- Reliance on communication technologies

04

Dementia

- Problems with memory and decision-making
- Frontotemporal dementia



STAGES OF DISEASE

The symptoms of ALS and rates at which the disease progresses varies from person to person, however these are symptoms commonly associated with the general disease stage

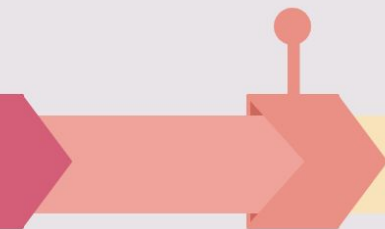
ALS Progression Timeline

Early Stages of ALS



- ❖ Muscle weakness
- ❖ Muscle twitching
- ❖ Fatigue
- ❖ Slurred speech
- ❖ Lack of balance
- ❖ Muscle cramping

Middle Stages of ALS



- ❖ Severe muscle weakness
- ❖ Some muscle paralysis
- ❖ Breathing problems
- ❖ Difficulty swallowing
- ❖ Difficulty chewing

Late Stages of ALS



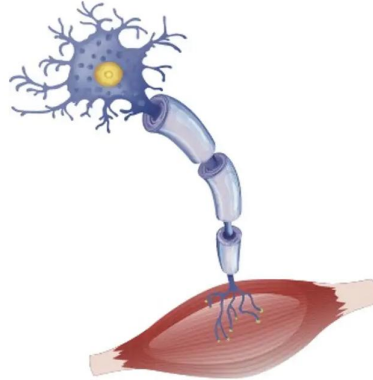
- ❖ Paralysis in most muscles
- ❖ Limited mobility
- ❖ inability to speak
- ❖ Inability to breathe, eat, and drink w/out assistance

LINK OF DISEASE TO COMMUNICATION ERROR

Because Amyotrophic Lateral Sclerosis is caused by dead/dying motor neurons the connection to lack of communication is evident. The central channel for communication is the spinal cord in which motor neurons are found. Without those motor neurons, it is impossible for sensory signals to reach the brain. Therefore, the lack of communication between the body and the brain can account for the loss of sensation and ability to move throughout the body. Professionals are unsure of the cause for this miscommunication, but determined it is rarely genetic.

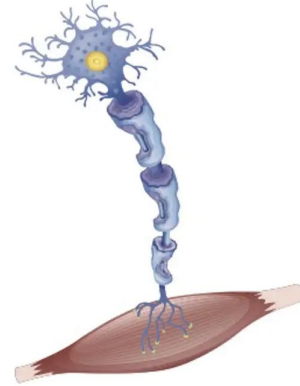


normal nerve cell

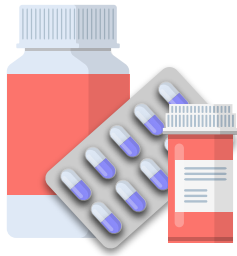


muscle contracts

nerve with sclerosis



muscle unable to contract



Treatment Layout

Because ALS is a communication disorder, there are no cures. However, there are treatments and procedures we can use, to slow down the development of the disease, and even relieve some of the discomfort it causes.

Medications:
Glutamate Blockers
Muscle Relaxants

**Recommended to
improve patient's
comfort.**

Physical Care:
Physical Therapy
Palliative Care

**Recommended to
improve patient's
quality of life.**

Procedures:
Gastrostomy
Tracheotomy

**Recommended to
improve patient's
primary functions.**



MEDICAL PROFESSIONAL RELATED TO ALS: NEUROLOGIST



Advanced tests can be run

More concise discoveries in the
brain can be made

Help manage symptoms

MEDICAL PROFESSIONALS RELATED TO ALS: PHYSICAL THERAPIST

- Physical therapy aims to increase and maintain range of motion, strength, stamina, walking ability, and balance.
- It aims to keep you walking safely and independently for as long as possible.
- Physical therapists assist ALS patients in adjusting to their environment and lifestyle to cope with their disabilities.



CITATIONS (APA Format)

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