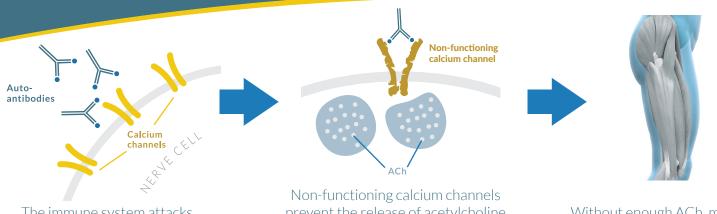
# Lambert-Eaton Myasthenic Syndrome (LEMS)

is a rare autoimmune disorder that causes progressive, debilitating muscle weakness, particularly in the legs.  $^{\rm 1}$ 



The immune system attacks calcium channels on nerve endings

Non-functioning calcium channels prevent the release of acetylcholine (ACh) – a chemical that sends messages between nerves and muscles

Without enough ACh, muscles are unable to contract properly resulting in muscle weakness

LEMS is caused by an immune system attack at the neuromuscular junction – the connection between nerve and muscle cells<sup>2</sup>

## Who gets LEMS?

# LEMS is rare...

About **3,000** people in the U.S. have LEMS<sup>3</sup>

## There are **two** types LEMS:

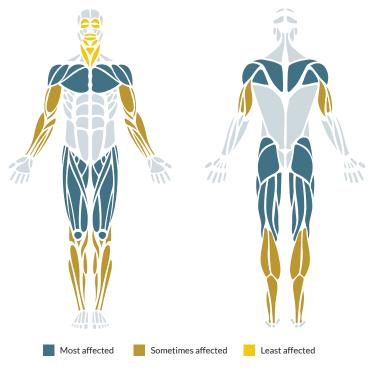
Autoimmune

50%

- Unknown cause
- Usually 40 years or older
- Can occur at any age

# LEMS Symptoms<sup>1,4</sup>

Progressive muscle weakness is the main symptom and most commonly affects the legs and hips.



#### Paraneoplastic

#### 50%

- Linked to cancer, usually small-cell lung cancer
- Typically have a history of smoking
- Generally 50 years or older

### Other symptoms include:

- Constipation
- Difficulty swallowingDry mouth
- Fatigue
- Impotence
- Slurred speech
- Tingling sensations
- Trouble with vision
- Weakness in the eye and neck muscles

## Living with LEMS<sup>4</sup>

LEMS impacts the ability to do simple, everyday activities:

Lifting objects

**Getting out of bed** 

Talking

Swallowing

**People with LEMS** 

say it feels like ...

"having a lead apron on" "walking through water"

"being glued to a chair"

Chewing

Getting into or out of the car

Standing up from a seated position

**Climbing steps** 

# **Diagnosis**<sup>1</sup>

### LEMS is diagnosed through:

- A physical exam, including evaluation of reflexes
- Bloodwork to test for certain antibodies
- Electrodiagnostic tests to assess the health of muscles and the nerve cells that control them

LEMS may be misdiagnosed. It can be mistaken for other diseases such as fibromyalgia, lupus, myasthenia gravis (MG), and multiple sclerosis.<sup>14</sup>

It is also important for people with LEMS to get tested for cancer.

## References

1. Titulaer MJ, Lang B, Verschuuren JJ. Lambert-Eaton myasthenic syndrome: from clinical characteristics to therapeutic strategies. *Lancet Neurol.* 2011;10(12):1098-1107. 2. NINDS Lambert-Eaton myasthenic syndrome information page. *National Institute of Neurological Disorders and Stroke (NINDS)*. https://www.ninds.nih.gov/Disorders/All-Disorders/Lambert-Eaton-Myasthenic-Syndrome-Information-Page#disorders-r1. May 25, 2017. Accessed February 19, 2019. 3. Lambert-Eaton myasthenic syndrome. Orphanet. https://www.orpha.net/consor/cgi-bin/OC\_Exp. php?Lng=GB&Expert=43393. November, 2013. Accessed February 19, 2019. 4. Harms L, Sieb JP, Williams AE, et al. Long-term disease history, clinical symptoms, health status, and healthcare utilization in patients suffering from Lambert Eaton myasthenic syndrome: results of a patient interview survey in Germany. *J Med Econ.* 2012;15(3):521-530.



355 Alhambra Circle, Coral Gables, FL 33134 | Tel: 305-420-3200 | catalystpharma.com