

SERONEGATIVE MYASTHENIA GRAVIS

UNDERSTANDING YOUR DIAGNOSIS AND BLOOD TEST RESULT

WHAT IS MYASTHENIA GRAVIS (MG)?

MG is a neuromuscular disorder that causes muscle weakness that worsens following activity.

- The primary symptom of MG is muscle weakness, but it can also cause drooping eyelids (ptosis), double vision (diplopia), and excessive muscle fatigue following activity
- MG occurs when antibodies, part of the body's natural defense system, mistakenly attack and gradually injure certain muscle receptors that receive the movement signals from the nerves
- Antibodies against AChR are the most common in MG patients; however, in some cases, MuSK or LRP4 antibodies can be found

HOW IS MG DIAGNOSED?

Doctors use several methods to diagnose MG:



A detailed patient history that reveals important medical information, which can help guide your doctor toward an accurate diagnosis



A physical exam to evaluate your symptoms and test your reflexes



An electrodiagnostic test called electromyography (EMG), which measures how well your nerves and muscles are communicating with each other



A lab test that measures the levels of MG antibodies (AChR, MuSK, and LRP4) in the blood.

- A **seropositive** result means there are **detectable** levels of these antibodies
- A **seronegative** result means there are **not detectable** levels of these antibodies

DOES SERONEGATIVE MEAN I DON'T HAVE MG?

Not necessarily—10%-15% of patients with MG may have a seronegative test result.

- Even if **MG antibodies are not detected**, a patient may still have **MG**, which can be confirmed with other specialized tests, such as a single-fiber EMG or repetitive nerve stimulation
- A **seronegative result may prompt your doctor to do further testing to rule out** other rare neuromuscular disorders such as **Lambert-Eaton myasthenic syndrome (LEMS)** or congenital myasthenic syndrome



LEMS IS OFTEN OVERLOOKED

More than 1/3 of patients with LEMS were first diagnosed with MG

LEMS
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IF IT'S NOT MG, WHAT ELSE MIGHT IT BE?

OTHER IMMUNE DISORDERS CAN AFFECT NEUROMUSCULAR FUNCTION

Several neuromuscular and neurological conditions share common symptoms with MG, most notably LEMS



Muscle Weakness

LEMS, multiple sclerosis (MS),
Guillain-Barré syndrome (GBS),
myopathy



Fatigue

LEMS, MS, GBS,
myopathy



Eye Problems

LEMS, MS

LEMS IS ALSO DIAGNOSED WITH AN ANTIBODY TEST

Like MG, LEMS is caused by antibodies that disrupt the communication (signals) between nerves and muscles. In LEMS, these antibodies block the release of a chemical transmitter called acetylcholine, which is required for muscle contraction.

- **LEMS and MG cause similar symptoms with slightly different mechanisms:**
 - LEMS is a disorder that doesn't allow the signal to be **sent from the nerves**
 - MG is a disorder that doesn't allow the signal to be **received by the muscles**
- **A LEMS diagnosis can be confirmed with a blood test**, which will check for the presence of anti-VGCC antibodies
 - **Anti-VGCC antibodies are present in more than 90% of patients with LEMS**

WHY IT'S IMPORTANT TO KNOW WHICH ANTIBODY IS PRESENT

- **Different antibodies cause different disorders requiring different treatments**
 - Even though MG and LEMS antibodies can cause similar symptoms, they act on different locations within the neuromuscular junction; for this reason, each requires a different type of treatment
 - Your doctor will prescribe the right medicine for your particular condition



NOT SURE OF YOUR DIAGNOSIS?

Ask your doctor about LEMS and whether you've had or might benefit from a LEMS antibody test.

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