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HYPERREFLEXIA

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Hyperreflexia

Hyperreflexia happens when your muscles have an increased or overactive reflex response. It can happen due to certain neurological conditions, like amyotrophic lateral sclerosis (ALS) and multiple sclerosis (MS). Anxiety and hyperthyroidism can also cause hyperreflexia.

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Overview

What is hyperreflexia?

Hyperreflexia happens when your [skeletal muscles](#) have an increased or overactive reflex response.

A reflex is an involuntary (automatic) action your body does in response to a stimulus. Reflexes protect your body from things that can harm it. For example, if a bug is flying toward your face, your eyes will close as a reflex — you don't have control over it. This is to protect your eyes from an injury (like the bug flying into them).

Damage to your motor neurons (nerve cells) that transmit signals from your [brain](#) to your [spinal cord](#) causes hyperreflexia. This is called an upper motor neuron (UMN) lesion. But other non-neurological conditions, like [anxiety disorders](#) and [hyperthyroidism](#), can cause hyperreflexia, too.

UMN damage leads to a characteristic set of symptoms known as upper motor neuron syndrome. The symptoms include hyperreflexia, in addition to:

- Muscle weakness.
- [Spasticity](#) (when certain muscles contract all at once).
- [Clonus](#) (involuntary and rhythmic muscle

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contractions).

How is hyperreflexia diagnosed?

Healthcare providers use the deep tendon reflex (DTR) examination to check for hyperreflexia as part of a [neurological exam](#). The best-known of the reflexes is the patellar, or knee-jerk, reflex.

The DTR exam involves a healthcare provider tapping your knee with a rubber hammer (it shouldn't hurt). This tap stretches your patellar [tendon](#) and the muscle in your thigh that connects to it.

Normally, your peripheral nerves (more specifically, sensory neurons) then send a signal to your spinal cord that the muscle has been stretched. Your spinal cord (via motor neurons) then very quickly sends a message back to the muscle telling it to contract. The contraction causes your lower leg to kick out a little bit. If you have hyperreflexia, your leg will kick out more briskly and forcefully than normal.

It's important to remember that normal reflexes vary from person to person. Some people may have stronger or weaker reflexes.

For effective and reliable results for the DTR exam, you need to be as relaxed as possible. If you're thinking about the test or have a rigid

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posture, the results might not be accurate. Your provider may try to distract you with a question or some other method as they tap on your knee to prevent this.

Aside from your knee, your provider may also check reflexes:

- Along the outside of your elbows.
- In the crooks of your arms.
- At your wrists and ankles.

Possible Causes

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What conditions cause hyperreflexia?

Upper motor neuron (UMN) lesions are the main cause of chronic (long-term) hyperreflexia. UMNs originate in your [cerebral cortex](#) (a part of your brain) and travel down to your [brainstem](#) or spinal cord.

Several conditions can lead to UMN damage and hyperreflexia, some of which are benign and may not need treatment. Other conditions include:

- [Amyotrophic lateral sclerosis \(ALS\)](#).
- Brain infection ([encephalitis](#)).
- [Multiple sclerosis \(MS\)](#).
- [Parkinson's disease](#).

- [Parkinson's disease](#).
- [Spinal cord injury](#).
- [Traumatic brain injury](#).
- [Vitamin B12 deficiency](#).

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Some other causes of hyperreflexia include:

- **Anxiety disorders:** When you have an anxiety disorder, like [generalized anxiety disorder](#) or [panic disorder](#), your body's "fight-or-flight" ([sympathetic nervous system](#)) response is more active than usual. This causes your muscles and reflexes to be extra sensitive, leading to hyperreflexia. Hyperreflexia in people with anxiety can come and go. It may be more noticeable in times of intense anxiety or [stress](#).
- **Hyperthyroidism:** This condition happens when you have too much [thyroid hormone](#) in your body. Excess amounts of this hormone speed up your [metabolism](#) and the activity of your cells, including nerve cells. This causes your reflexes to act more quickly, resulting in hyperreflexia. If hyperthyroidism is treated, the hyperreflexia will go away.

Care and Treatment

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How is hyperreflexia treated?

Treatment:

Treatment for hyperreflexia depends on the underlying cause. Some causes may not need any further testing or treatment. The goal of treatment is to treat the underlying condition.

Many causes of UMN lesions and hyperreflexia don't have a cure, like ALS, MS and Parkinson's disease. But there are still ways to manage the disease. In these cases, hyperreflexia is usually permanent, but some medications or therapies may help lessen the severity of the symptoms.

Hyperthyroidism and anxiety disorders are treatable with medications. This can help eliminate or reduce the frequency of hyperreflexia.

When To Call the Doctor

When should I see a healthcare provider about hyperreflexia?

If you have upper motor neuron damage, you'll likely notice other symptoms, like muscle weakness or spasticity, before you notice hyperreflexia. You should see a healthcare provider if you experience changes in how your muscles function

muscle function.

If your provider finds hyperreflexia and other symptoms of a serious neurological condition, they may refer you to a [neurologist](#).

It's important to remember that not all causes of hyperreflexia are neurological conditions. If you're feeling "jumpy" or get startled more easily than you used to, you should see a provider. You may have an anxiety disorder or hyperthyroidism.

Additional Common Questions

What's the difference between hyperreflexia and autonomic hyperreflexia?

Hyperreflexia and autonomic hyperreflexia ([autonomic dysreflexia](#)) are distinct conditions. "Autonomic" is the key difference.

Autonomic hyperreflexia is a potentially life-threatening syndrome involving an abnormal, overreaction of your [autonomic nervous system](#) to painful sensory input. It most often happens after a spinal cord injury at or above the sixth thoracic vertebrae (T6). The main sign is sudden and severe [high blood pressure \(hypertension\)](#), and the main symptom is a headache.

Hyperreflexia happens when you have overactive reflex responses at your joints. It's a sign of certain conditions and isn't life-threatening.

A note from Cleveland Clinic

Hyperreflexia can be a sign of an underlying neurological condition. If you have hyperreflexia, you probably won't know it until a healthcare provider checks your reflexes. But hyperreflexia often happens alongside other symptoms, such as muscle weakness and involuntary muscle contractions. If you notice changes in your muscle function, it's important to see a healthcare provider.



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