SYMPTOM

Upper limb spascity

Upper limb spasticity is involuntary muscle tightness that can restrict movement of the arm or hand.

WHAT IT FEELS LIKE
An arm that feels tight, stiff, or hard to control

WHERE IT IS FELT
Shoulder, elbow, forearm, wrist, hand, or fingers

MOST COMMON CAUSES
Stroke recovery, cerebral palsy, multiple sclerosis

WHEN IT IS URGENT
Sudden stiffness with weakness, facial droop, or speech trouble

USUALLY LASTS
Weeks to years, depending on the underlying nerve injury

SEE A DOCTOR IF
Tightness limits movement, sleep, hygiene, or causes pain

Overview

Upper limb spasticity is an involuntary tightening of muscles in the shoulder, arm, wrist, or hand. The standard medical spelling is spasticity .

It happens when damage to the brain or spinal cord disrupts the nerve signals that control muscle movement. Muscles may stay partly contracted or tighten more when the arm is moved quickly. This is different from ordinary muscle tension after exercise.

Spasticity is a symptom, not a disease. It can have several causes and may affect one or both arms. Some people have mild tightness, while others find that it interferes with dressing, washing, sleep, or using the hand.

Not every tight muscle needs treatment. Management is most useful when spasticity causes pain, skin problems, loss of movement, or difficulty with daily activities.

What it may feel or look like

The arm may feel heavy, stiff, or difficult to move. Symptoms can remain steady or come in

spasms.

Possible signs include:

Spasticity is different from a contracture . Spastic muscles tighten because of altered nerve signals. A contracture is a more fixed loss of movement caused by shortened muscles, tendons, or other tissues. The two can occur together.

Established spasticity may temporarily worsen with pain, constipation, a full bladder, infection, poor sleep, emotional stress, tight clothing, or a skin injury. These are triggers rather than the underlying cause.

- A shoulder held close to the body
- A bent elbow that is difficult to straighten
- A turned-in forearm
- A flexed wrist or clenched fist
- Fingers or a thumb pressing into the palm
- Jerking, shaking, or sudden muscle spasms
- Pain, disturbed sleep, or difficulty cleaning the hand

Common causes

Upper limb spasticity usually follows an injury or condition affecting the central nervous system, meaning the brain and spinal cord.

Common causes include stroke, cerebral palsy, multiple sclerosis, traumatic brain injury, and spinal cord injury. Spasticity may appear soon after the original injury, but it can also develop or become more noticeable over weeks or months.

Less common causes include inherited conditions affecting movement, inflammation of the brain or spinal cord, and other neurological conditions. These usually cause additional symptoms and cannot be identified from arm tightness alone.

A sudden new problem with arm control can sometimes be related to a stroke or acute injury. However, stiffness by itself does not show what the cause is. The timing and accompanying symptoms are important.

When to seek medical care

Call emergency services if arm stiffness or loss of control begins suddenly with any of the

following:

These can be signs of a stroke. Do not drive yourself to hospital.

Emergency assessment is also appropriate after a serious head, neck, or back injury if you develop new weakness, numbness, breathing difficulty, or loss of bladder or bowel control.

Seek same-day medical advice if established spasticity becomes much worse and you also have fever, confusion, urinary symptoms, severe unexplained pain, or red and hot skin. An infection, wound, or another treatable problem may be triggering the change.

Book a routine appointment if tightness is new, gradually worsening, or affecting movement, hygiene, sleep, work, or caregiving. Arrange review if the fingers are pressing into the palm, the skin is breaking down, or the arm is becoming harder to move.

- New weakness or numbness, especially on one side
- Facial drooping
- Trouble speaking or understanding speech
- Sudden loss of balance, vision changes, or a severe headache

How the cause is found

A clinician will ask when the tightness began, whether it changes during the day, and how it affects your activities. They will also ask about previous strokes, injuries, neurological conditions, medicines, pain, bladder or bowel symptoms, and recent infections.

During an examination, they may look at the resting position of your arm and test strength, sensation, reflexes, and coordination. Moving a joint at different speeds helps distinguish spasticity from fixed stiffness or other movement problems.

The assessment should also consider what the tightness prevents you from doing. Useful goals might include opening the hand for cleaning, reducing pain, improving sleep, or making dressing easier.

Tests are not always needed when the cause is already known. Depending on your symptoms, investigations may include brain or spinal imaging, blood tests, or tests of nerve and muscle function.

Treatment and self-care

Treatment depends on the cause, which muscles are affected, and what matters most to you.

Reducing all muscle tone is not always helpful because some people use stiffness to support the arm or assist with certain movements.

A physiotherapist or occupational therapist may recommend gentle stretching, positioning, supported movement, task practice, or a carefully fitted splint. Splints need review because poor fit can cause pressure or skin injury.

At home, move the arm gently within a comfortable range if you have been shown how. Avoid forcing a tight joint. Check the palm, elbow crease, and other hard-to-see areas for moisture, pressure marks, or broken skin. Address known triggers such as constipation, a full bladder, painful clothing, or poor positioning.

Medicines that act throughout the body, such as baclofen or tizanidine, may be considered when several muscle groups are affected. They can cause effects such as sleepiness or weakness, so treatment requires medical supervision.

Botulinum toxin injections can target particular overactive muscles. The effect is temporary and is usually combined with rehabilitation or a home programme. More severe or widespread spasticity may sometimes be managed with medicine delivered around the spinal cord or with specialist procedures.

Do not stop a prescribed antispasticity medicine suddenly without advice.

What to expect

The course of upper limb spasticity depends on the underlying brain or spinal cord condition. It may improve during recovery, remain stable, or change over time. Treatment often focuses on comfort, easier care, maintaining movement, and improving specific activities rather than making the arm feel completely normal.

Regular review is helpful because your goals may change. Earlier attention to pain, skin pressure, and reduced joint movement may help prevent avoidable complications such as wounds or fixed contractures.

Tell your care team which changes matter to you. A small improvement in opening the hand, sleeping comfortably, or putting on a sleeve can be a meaningful treatment result.

Common questions

Is spasticity the same as muscle weakness?

No. Spasticity is involuntary muscle overactivity, while weakness means a muscle cannot

produce normal force. They often occur together after damage to the brain or spinal cord.

Can stretching cure it?

Stretching does not repair the underlying nerve injury. Gentle, regular movement may help preserve comfort and joint range. Forceful stretching can cause pain or injury.

Why does the arm become tighter when I move quickly?

Spastic muscles often respond more strongly to fast movement because the usual control of reflexes has been disrupted. This speed-related response helps clinicians identify spasticity.

Can botulinum toxin cure upper limb spasticity?

No. It temporarily reduces activity in selected muscles. It may improve comfort, movement, hygiene, or positioning when used as part of a wider treatment plan.

Can spasticity return after treatment?

Yes. Because most treatments do not remove the underlying neurological cause, tightness can return or change. Follow-up allows treatment and rehabilitation goals to be adjusted.

Sources

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