CONDITION

Syringomyelia

Syringomyelia is a fluid-filled cavity within the spinal cord that can damage nearby nerves.

WHAT IT IS
Fluid-filled cavity forming within the spinal cord

BODY SYSTEM
Nervous system

MAIN SYMPTOMS
Pain, reduced temperature sensation, weakness, muscle stiffness

WHAT CAUSES IT
Blocked spinal fluid flow, injury, inflammation, or a tumour

HOW IT IS DIAGNOSED
MRI of the brain and spinal cord

MAIN TREATMENT
Monitoring or surgery to restore spinal fluid flow

CAN IT BE CURED?
Sometimes - treating the cause can collapse the cavity

IS IT AN EMERGENCY?
Sometimes - sudden weakness or breathing problems need emergency care

LONG-TERM OUTLOOK
Often stable, but established nerve damage may remain

Overview

Syringomyelia is a condition in which a fluid-filled cavity, called a syrinx , forms inside the spinal cord. The spinal cord carries messages between your brain and the rest of your body.

A syrinx can become longer or wider over time. As it expands, it may press on and damage spinal cord tissue. This can affect sensation, movement, pain control, and bladder or bowel function.

Some syrinxes remain small and cause few or no symptoms. Others gradually produce symptoms over months or years. The effect depends on the syrinx's location, size, cause, and how long it has been present.

Syringomyelia is historically called Morvan disease in some sources. This name is now used less often and should not be confused with Morvan syndrome, a separate autoimmune

nervous system disorder.

A related term, syringobulbia , means that a fluid cavity extends into the brainstem. The brainstem helps control swallowing, speech, breathing, and facial movement.

Symptoms

Symptoms usually develop slowly. They may affect one side more than the other and do not always match the apparent size of the syrinx on a scan.

A common early feature is reduced ability to feel pain or temperature, especially across the shoulders, arms, hands, or upper back. Light touch may remain normal. This unusual pattern can lead to unnoticed burns or cuts.

Other possible symptoms include:

If syringobulbia develops, symptoms can include dizziness, facial numbness or weakness, hoarseness, difficulty swallowing, or abnormal eye movements.

Symptoms associated with a Chiari malformation may also occur. These can include headaches at the back of the head that worsen with coughing, sneezing, straining, or bending.

These symptoms have many possible causes. Having one of them does not mean that you have syringomyelia.

- Neck, shoulder, back, arm, or chest pain
- Tingling, numbness, or altered sensation
- Weakness or loss of muscle bulk, often in the hands or arms
- Stiffness, spasms, or weakness in the legs
- Reduced reflexes in the arms or increased reflexes in the legs
- Poor balance, walking difficulty, or reduced coordination
- A curved spine, called scoliosis, particularly in children
- Loss of bladder or bowel control in more advanced cases

Causes and risk factors

Fluid called cerebrospinal fluid , or CSF, normally flows around the brain and spinal cord. Syringomyelia is often linked to something that disrupts this flow or changes pressure around the spinal cord.

The most common association is Chiari I malformation . In this condition, the lowest part of the brain extends into the opening at the base of the skull. This may interfere with normal CSF movement.

Other causes or associations include:

A syrinx may occasionally be found without a clear cause. This is described as idiopathic syringomyelia .

There is no known lifestyle behaviour that usually causes the condition. Risk is mainly related to structural problems, spinal injury, inflammation, or other conditions that alter CSF flow.

- Previous spinal cord injury, sometimes with symptoms appearing years later
- A spinal cord tumour or another growth
- Inflammation or scarring around the spinal cord, called arachnoiditis
- Previous meningitis or another infection affecting tissues around the cord
- A tethered spinal cord, which is held too tightly within the spinal canal
- Structural conditions present from birth
- Previous bleeding or surgery around the spinal cord

Diagnosis

Syringomyelia may be found while investigating symptoms or unexpectedly during imaging for another reason.

Assessment normally begins with a medical history and neurological examination. This checks muscle strength, reflexes, coordination, walking, and the ability to feel touch, pain, and temperature.

An MRI scan is the main test used to confirm a syrinx. MRI uses a strong magnetic field to produce detailed pictures of the brain, spinal cord, and surrounding tissues. It can show the syrinx and may identify a Chiari malformation, tumour, tethering, or another cause.

Imaging may include the brain and several or all parts of the spinal cord. A contrast material may be used when inflammation, scarring, or a tumour needs to be assessed.

A specialised scan called cine MRI can show the movement of CSF. It may help with surgical planning, particularly when Chiari malformation is present, but it is not required in every case.

Other tests, such as nerve conduction studies or electromyography, may help rule out conditions affecting nerves and muscles. They do not confirm syringomyelia by themselves.

Treatment and management

Treatment is based on your symptoms, examination findings, MRI results, and the cause of the syrinx. The aim is usually to stop further spinal cord damage by correcting the problem that disrupts CSF flow.

A small syrinx that is not causing symptoms may not require immediate surgery. Monitoring can include neurological examinations and repeat MRI scans. Follow-up matters because symptoms or imaging findings can change.

Surgery may be considered when symptoms are progressing, spinal cord function is worsening, or there is a treatable structural cause.

For syringomyelia associated with Chiari I malformation, surgery may create more space at the base of the skull and improve CSF flow. This is called posterior fossa decompression . It may stop progression and allow the syrinx to shrink, although it cannot always reverse nerve damage that has already occurred.

Treatment for other causes may involve:

Shunts can become blocked, move, or lead to infection. For this reason, treatment often focuses on correcting the underlying CSF blockage when possible.

Medicines may help manage pain, muscle spasms, or other symptoms, but they do not remove the syrinx. Physiotherapy or occupational therapy may help with strength, mobility, hand function, pacing, and safer ways to complete daily tasks.

- Removing or treating a tumour
- Releasing a tethered spinal cord
- Treating scar tissue that blocks CSF flow
- Correcting another structural obstruction
- Draining the syrinx through a tube called a shunt in selected cases

Complications

Spinal cord damage from a syrinx may become permanent, particularly when symptoms have been present for a long time. Possible complications include persistent weakness, muscle wasting, numbness, stiffness, walking problems, and chronic nerve pain.

Reduced pain and temperature sensation can make burns and injuries easier to miss. Checking areas with reduced feeling and using care around hot water, heaters, and cooking equipment

can lower this risk.

Some people develop neuropathic joints , also called Charcot joints. Repeated unnoticed injury can damage a joint, commonly the shoulder or elbow.

Children and adolescents may develop or have worsening scoliosis. A large or expanding syrinx can also affect bladder, bowel, sexual, or breathing function.

Symptoms can return or progress after surgery if CSF flow remains restricted, the syrinx refills, or a shunt stops working. Ongoing follow-up may therefore be needed even when treatment has helped.

Prevention

Most cases of syringomyelia cannot be prevented. Chiari malformation and other structural conditions are not caused by ordinary daily activities, diet, or a lack of exercise.

Using standard safety measures to reduce the risk of serious spinal injury is sensible, but it cannot prevent all cases.

If you have had a spinal cord injury, attending planned follow-up can help identify new neurological symptoms. This does not prevent a syrinx from forming, but it may support earlier assessment if problems develop.

People who already have reduced sensation can help prevent secondary injuries by protecting numb areas from burns, pressure, and cuts.

Living with it and what to expect

The course of syringomyelia is not the same for everyone. A syrinx may remain stable for years, slowly enlarge, or become smaller after its cause is treated. Symptoms may also remain stable even when a cavity is still visible on MRI.

When surgery restores CSF flow, the main goal is often to stop or slow further damage. Pain, weakness, or altered sensation may improve, but recovery is not guaranteed. Long-standing muscle loss and loss of sensation are less likely to reverse completely.

You may need repeat examinations and MRI scans over months or years. The timing is based on the cause, symptoms, previous treatment, and scan findings.

Many people continue with work, education, family life, and suitable physical activity. Adjustments may be needed for weakness, pain, fatigue, poor balance, or reduced hand function. Rehabilitation can help you find practical ways to remain active and independent.

There is no single exercise rule for everyone with syringomyelia. Gentle activity may support general health, but movements that reliably trigger pain, weakness, dizziness, or severe strain should be discussed with your care team. A physiotherapist familiar with neurological conditions can help plan appropriate activity.

Report new symptoms rather than waiting for the next routine scan. A change in function can matter even if previous imaging appeared stable.

When to get medical help

Arrange a routine appointment if you develop ongoing numbness, unusual loss of pain or temperature sensation, unexplained hand weakness, muscle wasting, stiffness, balance problems, or headaches triggered by coughing or straining.

If you already have syringomyelia, contact your care team promptly when symptoms are new or clearly worsening. This includes increasing weakness, more frequent falls, spreading numbness, new swallowing difficulty, or changes in bladder or bowel function.

Seek urgent medical assessment for rapidly worsening weakness, sudden difficulty walking, new loss of bladder or bowel control, or inability to pass urine.

Call emergency services for severe breathing difficulty, choking, sudden paralysis, or a major new neurological change. These symptoms are not typical of every case, but they require immediate assessment.

Routine follow-up remains important when symptoms are stable. Emergency care is not usually needed simply because an MRI shows a syrinx without a sudden change in your condition.

Common questions

Is syringomyelia a type of cancer?

No. A syrinx is a fluid-filled cavity, not a cancer. However, a spinal cord tumour can sometimes obstruct CSF flow and lead to a syrinx. MRI helps look for this and other possible causes.

Is syringomyelia the same as Chiari malformation?

No. Chiari I malformation is a structural condition at the base of the skull. Syringomyelia is a cavity within the spinal cord. Chiari malformation is a common cause of syringomyelia, but either condition can occur without the other.

Can a syrinx go away?

Sometimes. A syrinx may shrink after the underlying blockage to CSF flow is corrected. A small syrinx may also remain stable without treatment. Complete disappearance is not guaranteed, and symptoms can remain if spinal cord tissue has already been damaged.

Will syringomyelia cause paralysis?

Severe or progressive spinal cord damage can cause major weakness or paralysis, but this is not inevitable. Many people have stable or slowly changing symptoms. Monitoring and treatment of an underlying cause aim to protect remaining spinal cord function.

Can I exercise with syringomyelia?

Many people can remain active, but suitable exercise depends on symptoms and the underlying cause. Activities that trigger neurological symptoms or involve heavy straining may need modification. Individual guidance from a neurological care or rehabilitation team is useful.

Is Morvan disease the same condition?

Morvan disease is an older name sometimes used for syringomyelia. It should not be confused with Morvan syndrome , a different and rare autoimmune condition involving abnormal nerve and brain activity.

Sources

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