# Syringomyelia

Syringomyelia is a disorder in which a cyst forms within the spinal cord. This cyst is called a syrinx. It expands and elongates over time. It ends up destroying the center of the spinal cord.

## CAUSES

- In most cases, the disorder is related to a congenital abnormality of the brain. This is called a Chiari I malformation. It happens during the development of the fetus. It causes the lower part of the cerebellum to protrude from its normal location in the back of the head into the cervical or neck portion of the spinal canal.
- Syringomyelia may occur as a complication of:
  - Trauma.
  - Meningitis.
  - Hemorrhage.
  - Tumor.
  - Arachnoiditis.

Symptoms may appear months or even years after the initial injury. They may start with pain, weakness, and sensory impairment beginning at the site of trauma.

- Some cases are familial. But this is rare.

## SYMPTOMS

Signs of the disorder tend to develop slowly. But sudden onset may occur with coughing or straining.
Since the spinal cord connects the brain to nerves in the extremities, the damage causes pain, weakness, and stiffness in the back, shoulders, arms, or legs. Other symptoms may include:

- Headaches.
- Loss of the ability to feel extremes of hot or cold. This is especially true in the hands.

Each patient experiences a different combination of symptoms.

## DIAGNOSIS

Magnetic resonance imaging (MRI) has increased the number of cases diagnosed in the beginning stages of the disorder. If not treated surgically, this disorder often leads to progressive weakness in the arms and legs, loss of hand sensation, and chronic, severe pain.

## TREATMENT

- Surgery is usually recommended for syringomyelia patients. If the disorder recurs after surgery, additional operations may be needed. These may not be completely successful over the long term.
- In some patients it may be necessary to drain the syrinx. This can be done by using a catheter, drainage tubes, and valves.
- If there are no symptoms, this disorder is usually not treated. In addition, a caregiver may recommend not treating the condition in patients of advanced age or in cases where there is no progression of symptoms.
- Whether treated or not, many patients will be told to avoid activities that involve straining.

## WHAT WILL HAPPEN

Symptoms usually begin between the ages of 25 and 40. They may worsen with straining or any activity that causes cerebrospinal fluid pressure to fluctuate. But some patients may have long periods of stability. Surgery results in stabilization or modest improvement in symptoms for most patients. Delay in treatment may result in irreversible spinal cord injury.

## RESEARCH BEING DONE

Investigators have found that as the heart beats, syrinx fluid is forced downward. This finding suggests a role for the cardiovascular system in this disorder. Surgical techniques are also being refined by the neurosurgical research community. It is also important to understand the role of birth defects in the development of hindbrain malformations that can lead to this disorder. Dietary supplements of folic acid during pregnancy have already been found to reduce the number of cases of certain birth defects. Diagnostic technology is another area for

continued research. Patients can expect even better techniques to become available in the future from the research efforts of scientists today.

**Research is continually being done to learn more about this problem.**
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