



# Acoustic Neuroma Guide



## OVERVIEW

At Mayo Clinic ENT, we understand that receiving an acoustic neuroma diagnosis can be overwhelming. Our highly specialized team is here to support you. We take a comprehensive approach to diagnosing and managing acoustic neuromas and can answer your questions at any stage, from diagnosis to treatment to rehabilitation.

## CAUSES

Often there is no known cause for an acoustic neuroma.

Sometimes, the cause of acoustic neuromas can be linked to a problem with a gene on chromosome 22. Typically, this gene produces a tumor suppressor protein that helps control the growth of Schwann cells covering the nerves.

Experts don't know what causes this problem with the gene. This gene change is inherited in people with a rare disorder called neurofibromatosis type 2. People with neurofibromatosis type 2 usually have growth of tumors on the hearing and balance nerves on both sides of the head. These tumors are known as bilateral vestibular schwannomas.

## RISK FACTORS

The only confirmed risk factor for acoustic neuromas is having a parent with the rare genetic disorder neurofibromatosis type 2. However, neurofibromatosis type 2 only accounts for about 5% of acoustic neuroma cases.

A hallmark characteristic of neurofibromatosis type 2 is noncancerous tumors on the balance nerves on both sides of the head. Tumors also may develop on other nerves.

Neurofibromatosis type 2 is known as an autosomal dominant disorder. This means that the gene related to the disorder can be passed to a child by just one parent. Each child of an affected parent has a 50-50 chance of inheriting it.

## SYMPTOMS

Symptoms of an acoustic neuroma are often easy to miss and may take years to develop. Symptoms may occur because of the tumor's effects on the hearing and balance nerves. The tumor also can put pressure on nearby nerves controlling facial muscles, known as the facial nerve, and sensation, known as the trigeminal nerve. Blood vessels or brain structures also can be affected by an acoustic neuroma.

As the tumor grows, it may cause more noticeable symptoms.

Common symptoms of an acoustic neuroma include:

- Hearing loss, usually gradually over months to years. In rare cases, hearing loss can be sudden. Hearing loss usually occurs on one side or is worse on one side.
- Ringing in the affected ear, known as tinnitus.
- Loss of balance or not feeling steady.
- Dizziness.
- Facial numbness and, very rarely, weakness or loss of muscle movement.

## DIAGNOSIS

An acoustic neuroma is often hard to diagnose in the initial stages because symptoms may be easy to miss and develop slowly over time. Common symptoms such as hearing loss also are associated with many other middle and inner ear problems.

Magnetic resonance imaging (MRI) with contrast dye is usually used to diagnose an acoustic neuroma. This imaging test can detect tumors as small as 1 to 2 millimeters in diameter. If MRI is not available or you can't have an MRI scan, computerized tomography (CT) may be used. However, CT scans may miss small tumors.

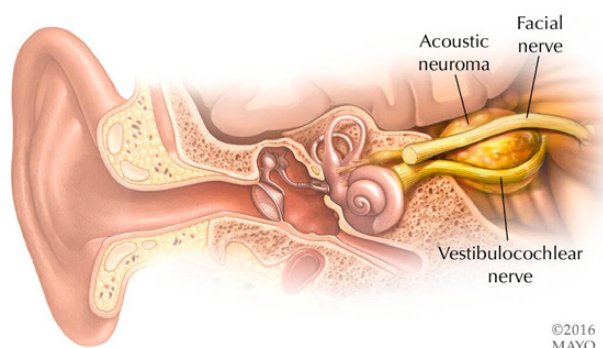
## TREATMENT

There are three treatment approaches for acoustic neuroma: monitoring, surgery or radiation therapy.

### MONITORING

You and your health care team may decide to monitor an acoustic neuroma if it's small and isn't growing or if it's growing slowly. This may be an option if the acoustic neuroma causes few or no symptoms.

While being monitored, you'll need regular imaging and hearing tests, usually every 6 to 12 months. These tests can determine whether the tumor is growing and how quickly.



## SURGERY

You may need surgery to remove an acoustic neuroma, especially if the tumor is:

- Continuing to grow
- Large
- Causing symptoms

Your surgeon may use one of several techniques for removing an acoustic neuroma. The surgery technique depends on the size of the tumor, your hearing status and other factors.

The goals of surgery are to remove the tumor and preserve the facial nerve to prevent paralysis of muscles in your face.

## RADIOSURGERY

A type of radiation therapy known as stereotactic radiosurgery can treat an acoustic neuroma. It's often used if the tumor is small — less than 2.5 centimeters in diameter. Stereotactic radiosurgery, such as Gamma Knife and CyberKnife, uses many tiny gamma rays to deliver a precisely targeted dose of radiation to a tumor. This technique offers treatment without damaging the surrounding tissue or making an incision.

The goals of stereotactic radiosurgery are to stop the growth of a tumor, preserve the facial nerve's function and preserve hearing.

## QUESTIONS TO ASK YOUR DOCTOR

Preparing a list of questions helps you make the most of your time. For acoustic neuroma, some questions to ask include:

- Should I limit activities that may be affecting my symptoms?
- What kinds of tests do I need?
- Which treatment do you recommend for me?
- What are potential side effects from each treatment option?
- What happens if I do nothing?
- If I take a watch-and-wait approach, how will I know when it's time to get surgery?
- What rehabilitation options and services are available to preserve my quality of life?

## TIPS FOR MANAGING THE EMOTIONAL STRESS OF ACOUSTIC NEUROMA

Acoustic neuroma can be a challenging condition and sometimes is described as an “invisible illness.”

Physical symptoms of acoustic neuroma may vary in severity and fluctuate over time, sometimes causing a person to limit daily activities and social relationships. These avoidance behaviors also can lead to psychological isolation and stress.

Tips to help manage the emotional stress of acoustic neuroma include:

- Getting enough sleep
- Eating healthy, whole foods
- Exercising daily – even a short walk is beneficial
- Engaging in supportive care – including balance therapy, physical therapy, occupational therapy and hearing assistance
- Asking friends and family to support your health changes
- Joining a support group, such as a local chapter of the Acoustic Neuroma Association
- Practicing coping activities, like breathing exercises and meditation

## SUPPORTING A LOVED ONE WITH AN ACOUSTIC NEUROMA

- Encourage movement and physical activity: Motivate your loved one to do gentle exercises, stretching or physical therapy, even if it initially causes some discomfort. Gradually increasing activity levels can help improve overall functioning.
- Support a balanced routine: Help establish a regular sleep schedule and ensure that your loved one is exposed to daylight during the day. Encourage healthy habits such as maintaining a nutritious diet.
- Provide emotional support: Encourage open communication about your loved one’s feelings and experiences. Help them seek professional help if needed. Practice patience and adaptability to accommodate their needs and limitations.
- Stay informed and advocate for proper medical care: Educate yourself about acoustic neuroma, available treatments and strategies for managing symptoms. This knowledge will help you better understand and support your loved one during their acoustic neuroma journey.
- Encourage self-care: Remind your loved one to prioritize self-care, including practicing relaxation techniques and engaging in activities that bring joy and reduce stress.



Remember, each person’s experience with acoustic neuroma is unique to them, so it’s essential to tailor your support to their needs.

## WHY CHOOSE US?

Acoustic neuroma can be a challenging condition that affects your life in unique ways. We’re all about helping you regain control of your health and positioning you to thrive.

Coming to Mayo Clinic helps you gain access to high-quality and reliable imaging to pinpoint the exact type and location of your acoustic neuroma.

Our acoustic neuroma program offers multidisciplinary medical care, less-invasive therapies, surgery and second opinions. We collaborate through our weekly tumor board meetings, which bring ENT, neurosurgery, neuro-oncology, radiation oncology and radiology specialists together to discuss acoustic neuroma cases. By working together, we can evaluate all of the options to tailor your plan and improve your treatment’s effectiveness.

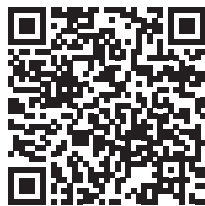
Because of our experience in treating even the most complex cases, we can often offer solutions for patients who have had prior treatment.

## APPOINTMENTS

Contact us to schedule an appointment with one of our acoustic neuroma specialists at 904-902-6237.



Please scan the QR code to view our Acoustic Neuroma video playlist.



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[mayoclinic.org](https://www.mayoclinic.org)

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