

Acoustic Neuroma

Symptoms and Treatments





APPROXIMATELY **2,500**
PEOPLE ARE DIAGNOSED WITH
ACOUSTIC NEUROMAS
EACH YEAR.



Source: National Organization for Rare Disorders, Rare Disease Database

We're here to help.

The AdventHealth Neuroscience Institute is a state-of-the-art facility for adults affected by acoustic neuromas. We specialize in minimally invasive treatments that use laser technology to remove tumors or reduce their size. These advanced techniques preserve hearing and facial nerve function more effectively than conventional treatments and often result in less damage to brain tissue. Recovery times are also shorter.

What is an Acoustic Neuroma?

An acoustic neuroma is a benign (noncancerous) tumor that arises on the eighth cranial nerve leading from the brain to the inner ear. It is also sometimes called a vestibular schwannoma because it results from an overproduction of Schwann cells on the nerve. Acoustic neuromas are usually slow-growing, but when large enough, they can displace normal brain tissue. These tumors are very rare and occur in about one out of 100,000 people per year. While they can appear at any time in life, the most common age at which patients develop symptoms is between 30 and 60 years old.

An acoustic neuroma will compress the hearing and balance nerves as it grows, which often causes hearing loss on that side. Other symptoms can include a ringing sound in the ear (tinnitus) as well as dizziness and balance problems. An expanding tumor may also affect the trigeminal nerve, thereby causing facial numbness and prompting weakness or paralysis on that side. A large tumor can be life-threatening when it puts severe pressure on the brainstem and cerebellum.

Causes of Acoustic Neuroma

The causes of acoustic neuroma are not clear, and in most cases, cannot be identified. In its bilateral form (when both ears are affected), this condition can be inherited in patients with a rare disorder called neurofibromatosis type 2. When the condition occurs on just one side, potential causes that have been suggested include past radiation exposure of the face or neck and certain occupational exposures – however, no connection has been verified between exposure to loud noises and the occurrence of acoustic neuroma.

Symptoms of Acoustic Neuroma

The first symptom of an acoustic neuroma is typically a reduction in hearing in one ear. This hearing loss is usually subtle and worsens slowly. Very rarely will someone completely lose their hearing, although if left untreated, total hearing loss will eventually occur. In addition to this reduction in hearing, another initial symptom may be the feeling of fullness in the affected ear.

As the tumor grows, other symptoms may include the feeling of unsteadiness or having balance problems (sometimes even vertigo). The person may experience facial numbness and/or tingling (either constantly or intermittently). The onset of facial pressure could trigger headaches, clumsiness, and/or mental confusion. While facial weakness or paralysis is uncommon with this type of tumor, it may happen over either the short or long term.

- Gradual (or sometimes sudden) hearing loss in one ear
- Ringing sound in one ear (tinnitus)
- Dizziness and balancing problems
- Headaches and confusion
- Facial numbness or tingling sensations

A Challenging Diagnosis

Diagnosing an acoustic neuroma can be very difficult, as symptoms may mimic those of other health issues. However, recent advances in medicine have improved doctors' ability to arrive at this diagnosis.

Routine hearing tests can reveal a loss of hearing and speech recognition. An audiogram may also be used to evaluate hearing in both ears. When hearing loss is identified, an MRI exam would be the next step to reveal whether a tumor is present. If an MRI can't be performed, a CT scan can help with the diagnosis. In this case, performing both an audiogram and a CT scan will approach the reliability of an MRI for diagnosing an acoustic neuroma.

- Ear exam and hearing test
- Audiogram
- MRI or CT scan

Treatment Options

AdventHealth offers the most advanced and effective treatment options for acoustic neuroma. These include:

- **Observation** – When acoustic neuromas are small, symptoms are typically minor or incidental. This means that if the tumor does not grow or is not growing at a fast-enough rate to affect one's quality of life, observation may be appropriate. There is also good evidence available now that suggests small tumors in older individuals do not grow, thus allowing these tumors to be observed successfully.

- **Microsurgical Tumor Removal** – The type of surgery performed depends on the size, location, skill and experience of the surgeon, and whether or not hearing preservation is a goal. Options include:
 - Subtotal removal, where only a part of the tumor is removed, usually when anything further risks life or neurological function
 - Near total tumor removal, where only a small part of the tumor remains after surgery; this is typically the case when the small area is so adherent to the facial nerve that complete removal would result in facial weakness.
 - Total tumor removal, where the tumor can be resected in its entirety
- **Radiation Therapy** – This treatment option can be delivered as a single-fraction stereotactic radiosurgery (SRS) or as multi-session fractionated stereotactic radiotherapy (FSR). Both are performed in the outpatient setting and do not require general anesthesia or a hospital stay; the purpose of these techniques is to stop the growth of the tumor, causing it to die (also called necrosis).

The 'Gold Standard': Gamma Knife® Surgery

At AdventHealth, emerging treatments and a world-class medical team offer highly effective, precise, advanced technologies and a personalized, team approach to neurological care. An excellent example is our Gamma Knife Radiosurgery Program. With Gamma Knife, our physicians use a very specialized frame that allows them to precisely target an area of the brain that needs to be treated with radiation therapy. They can then focus multiple beams of radiation on the tumor site with virtually no exposure of the surrounding healthy tissues. The accuracy of this system is within less than one millimeter.

Despite its name, this procedure does not involve a knife or a single incision. As the treatment does not involve anesthesia or more-invasive incisions, most patients can undergo this therapy and go home on the very same day.

Follow-up Care

After treatment and removal of the tumor, it is possible that it may recur. Therefore, a follow-up MRI is strongly recommended within one to five years. It is also helpful to remain active after treatment, as this is the best way to combat dizziness. Finally, it is important that you maintain a strong relationship with your primary care physician and discuss any problems that may occur.

Source: Acoustic Neuroma Association

For more information or to schedule an appointment, call 407-303-7944 or visit AdventHealthNeuroInstitute.com.

Our Health Equity Promise

Patient Protection and Affordable Care Act: Section 1557

AdventHealth complies with applicable federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex. This facility does not exclude people or treat them differently because of race, color, national origin, age, disability or sex.

AdventHealth provides free aid and services to people with disabilities to communicate effectively with us, such as:

- Qualified sign language interpreters
- Written information in other formats (large print, audio, accessible electronic formats, other formats)

AdventHealth provides free language services to people whose primary language is not English, such as:

- Qualified interpreters
- Information written in other languages

If you need these services, please call 407-303-5600 x1106707.

If you believe that this facility has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability or sex, you can file a grievance or request that someone assist you with filing a grievance at 407-200-1324 or FH.Risk.Management@AdventHealth.com.

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically, through the Office for Civil Rights Complaint Portal, available at ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:

U.S. Department of Health and Human Services
200 Independence Avenue, SW
Room 509F, HHH Building Washington, D.C. 20201
1-800-368-1019, 800-537-7697 (TDD)

Complaint forms are available at hhs.gov/ocr/office/file/index.html.

The statements below direct people whose primary language is not English to translation assistance:

ATENCIÓN: si habla español, tiene a su disposición servicios gratuitos de asistencia lingüística. Llame al número siguiente.

CHÚ Ý: Nếu bạn nói Tiếng Việt, có các dịch vụ hỗ trợ ngôn ngữ miễn phí dành cho bạn. Gọi theo số điện thoại dưới đây.

注意: 如果您使用中文, 您可以免费获得语言协助服务。请拨打下面电话号码。

Atansyon: Si ou pale kreyòl Ayisyen, gen sèvis asistans nan lang ou ki disponib gratis pou ou. Rele nimewo ki anba an.

주의: 한국어를 사용하시는 경우, 언어 지원 서비스를 무료로 이용하실 수 있습니다. 아래의 번호로 전화하십시오.

UWAGA: Jeżeli mówisz po polsku, możesz skorzystać z bezpłatnej pomocy językowej. Zadzwoń pod numer podany poniżej.

ملحوظة: إذا كنت لاتتحدث اللغة الانجليزية فان خدمات الترجمة متوفرة لك مجاناً. الرجاء الإتصال بالرقم أدناه:

ATTENTION : Si vous parlez français, des services d'aide linguistique vous sont proposés gratuitement. Appelez le numéro ci-dessous.

PAUNAWA: Kung nagsasalita ka ng Tagalog, maaari kang gumamit ng mga serbisyo ng tulong sa wika nang walang bayad. Tawagan ang numero sa ibaba.

ВНИМАНИЕ! Если вы говорите на русском языке, то вам доступны бесплатные услуги перевода. Для этого позвоните по нижеуказанному номеру.

ACHTUNG: Wenn Sie Deutsch sprechen, stehen Ihnen kostenlos sprachliche Hilfsdienstleistungen zur Verfügung. Rufen Sie die untere Nummer an.

સુચના: જો તમે ગુજરાતી બોલતા હો, તો નિ:શુલ્ક ભાષા સહાય સેવાઓ તમારા માટે ઉપલબ્ધ છે. નીચેના નંબર પર ફોન કરો.

ATENÇÃO: Se você fala português, disponibilizamos serviços lingüísticos gratuitos. Ligue para o número abaixo.

ध्यान दें: यदि आप हिंदी बोलते हैं तो आपके लिए मुफ्त में भाषा सहायता सेवाएं उपलब्ध हैं। नीचे लिखे नम्बर पर सम्पर्क करें।

اگر شما فارسی زبان هستید، خدمات کمکی زبان بطور مجانی در دسترس شما قرار دارد. تو شماره زیر زنگ بزنید.

توجه فرمائیں۔ اگر آپ اردو بولتے/بولتی ہیں تو آپ کے لئے لسانی خدمات مفت میسر ہیں۔ ذیل میں دئیے گئے نمبر پر کال کریں۔

注意: 日本語でお話になりたい場合には、無料の通訳サービスをご利用いただけます。下記の番号にお電話してください。

ໄປດຊາບ: ຖ້າວ່າ ທ່ານເວົ້າພາສາ ລາວ, ການບໍລິການຊ່ວຍເຫຼືອ ດ້ານພາສາ, ໄດຍບໍ່ສິ້ນຄ່າ, ແມ່ນມີພ້ອມໃຫ້ທ່ານ. ກະລຸນາໃຫ້ນໍາເບື້ອງໂຕ້ລຸ່ມ

LUS CEEB TOOM: Yog tias koj hais lus Hmoob, cov kev pab txog lus, muaj kev pab dawb rau koj. Hu tus xojtooj hauv qab no.

ATTENZIONE: Se parlate italiano, sono disponibili dei servizi di assistenza linguistica gratuiti. Chiamare il numero sotto indicato.



Neuroscience Institute
407-303-7944 | AdventHealthNeuroInstitute.com