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MACARTHUR ENT

Asymmetric Hearing Loss and MRI

Why an MRI may be recommended when one ear hears differently

This sheet explains why an ear, nose and throat (ENT) assessment and an MRI may be recommended when a hearing test shows sensorineural hearing loss that is worse in one ear.

The most important message

- An MRI is a screening test. It does not mean that your doctor expects to find a tumour.
- About 95–99% of people scanned for asymmetric hearing loss, sudden hearing loss or one-sided tinnitus do not have a vestibular schwannoma.

What does asymmetric hearing loss mean?

Sensorineural hearing loss comes from the inner ear or hearing nerve. “Asymmetric” means that one ear is measurably worse than the other on an audiogram. Common screening definitions include:

- a difference of 10 decibels (dB) or more at two neighbouring test frequencies; or
- a difference of 15 dB or more at one frequency.

These are guides rather than rigid rules. The pattern of hearing loss, speech discrimination, tinnitus, dizziness, age, symptoms and medical history all influence whether imaging is appropriate.

Why is an MRI recommended?

The main purpose is to examine the hearing and balance nerves and exclude a vestibular schwannoma, also called an acoustic neuroma. This is a benign, usually slow-growing tumour arising from the balance nerve. MRI is the most sensitive test and can detect very small tumours before they are apparent on examination.

- Only around 1–5% of screening MRIs performed for these symptoms identify a vestibular schwannoma.
- MRI may occasionally identify another explanation, such as inflammation, a different benign lesion, a structural difference or a vascular problem.
- A normal MRI is the most common and reassuring result.

What scan is usually requested?

A dedicated high-resolution non-contrast MRI of the internal auditory canals (IACs)—the small bony canals carrying the hearing, balance and facial nerves—is generally requested. Modern high-resolution sequences can provide detailed views of these nerves and the surrounding structures without an injection.

MRI safety

- MRI uses a magnetic field and radio waves; it does not use ionising radiation.
- Tell the imaging service about any implant, pacemaker, previous metal injury, pregnancy or severe claustrophobia before the scan.

Sudden hearing loss is urgent

- If hearing has dropped suddenly—over hours or within the last few days—seek urgent medical or ENT assessment. Treatment is time-sensitive and should not wait for a routine MRI appointment.

How your GP and ENT specialist can help

- Your GP may refer you for an ENT assessment when a hearing test shows asymmetry, or when you have one-sided tinnitus, sudden hearing loss, dizziness or other concerning symptoms.
- The ENT specialist reviews the audiogram, examines the ears, assesses the pattern of symptoms and decides whether a dedicated MRI is appropriate.
- If an MRI is needed, the ENT specialist can provide a request using the appropriate clinical indication and protocol.

Medicare and your out-of-pocket cost

- When clinically appropriate, an ENT-requested MRI may qualify under an eligible specialist MRI item. This can provide a higher Medicare rebate and may reduce the amount you pay compared with a scan that is not eligible for that item.
- Medicare eligibility does not guarantee that the scan will be free. Imaging providers set their own fees and bulk-billing policies. Ask the imaging provider to confirm the total fee, Medicare rebate and

expected gap before booking.

Other possible causes of hearing asymmetry

A vestibular schwannoma is only one possibility. In many people, no single cause is found. Depending on the history, other causes can include:

- Age-related or noise-related hearing loss that has affected the ears differently
- Ménière's disease or another inner-ear disorder
- A previous infection, inflammation, head injury or pressure injury
- Medicines that can damage hearing
- Autoimmune, vascular or neurological conditions
- Congenital inner-ear or hearing-nerve differences, especially in children

If the MRI finds a vestibular schwannoma

Most tumours detected through screening are small and slow-growing. Management is individualised and may include observation with repeat scans, focused radiation treatment or surgery. The best option depends on tumour size, growth, hearing, balance, age, general health and your preferences.

Practical next steps

- Bring your audiogram and any previous hearing tests or scans to your ENT appointment.
- If an MRI is recommended, ask the imaging provider about preparation, Medicare eligibility and the likely gap fee before booking.
- Arrange follow-up to discuss the result with the doctor who requested the scan.
- If the MRI is normal, seeing an ENT specialist is unlikely to change how your hearing loss is managed. You are still welcome to see your ENT surgeon for counselling and to talk through the results.
- When no cause is found, the usual treatment for troublesome (symptomatic) asymmetric sensorineural hearing loss is a trial of a hearing aid.

Evidence note: CNS vestibular schwannoma screening guideline update (2025); AAO-HNS age-related and sudden hearing loss guidelines; Carlson & Link, NEJM 2021; ACR Appropriateness Criteria; Australian Medicare Benefits Schedule item 63040 (July 2026 schedule).