

TYPES OF BONE CONDUCTION SYSTEMS

ACTIVE SYSTEMS



In active systems the mechanical vibrations originate at the mastoid bone which results in the direct vibrations to the cochlea. This is the most effective way in sound transmission. They are a two-part system with an external processor that picks up sounds worn on the head and held in place by a magnet or an abutment, and an internal implant that drives the sound vibrations.

PASSIVE SYSTEMS



Passive systems involve the sound processor worn on the head via a sticker or headband. The origin of the sound vibrations start at the processor and they will need to pass through the skin, before they are detected by the cochlea.

FAQs

Can I trial this device before surgery?

Absolutely. This is the advantage of bone conduction hearing aids. You can trial the device, programmed to your hearing loss by your audiologist, on a headband. You can experience this technology firsthand in your daily listening environments to see if this is the right life changing decision to make.

Can I take advantage of future advancements?

Yes. The internal surgical component is designed to last a lifetime, while the external sound processor—which captures and processes sound—can be upgraded as new technologies become available. As a result, bone conduction implants are generally backward compatible, allowing users to benefit from advancements such as improved speech understanding in noise, enhanced connectivity, and rechargeable technology.

How much time will I need to take off work?

Depending on type of employment, it might be two weeks or less. If you are wearing a hearing aid on the non-implanted side you will still be able to hear the same from this ear as before.

Can I still wear a hearing aid?

Bone conduction implants are typically worn on one ear, and you can still wear your existing hearing aid on the other ear.

Can I connect it to smart devices?

As technology and connectivity options are constantly advancing, some bone conduction hearing aids can connect directly to FM systems, Telecoil receivers and smartphones. Consult your audiologist to find out more.

ABOUT VICTORIAN HEARING



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BONE CONDUCTION HEARING SOLUTIONS



**Book a device discussion
with your audiologist**

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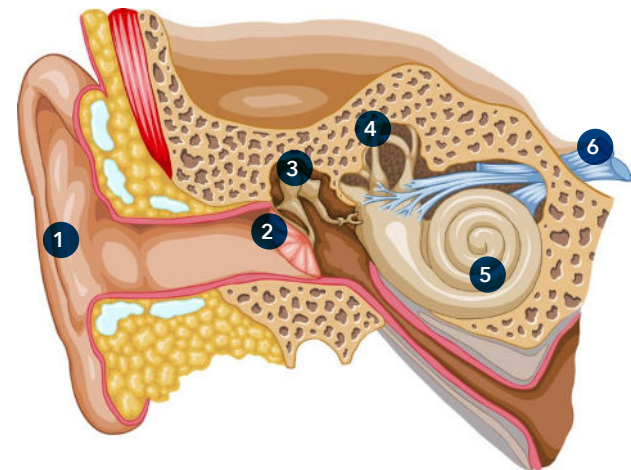
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**Your Next Steps to
Better Hearing
Guide**

HOW WE HEAR

Our hearing system is unique. We need both the ears and our brain to work well to help us interpret the sounds around us. Firstly, hearing begins when sound waves enter the ear canal. These sound vibrations continue to travel through to the ear drum, middle ear space, then inner ear (cochlea) and eventually they are converted to electrical signals that travel along the hearing nerve to the brain.

Our brain makes sense of these signals by matching them to sounds stored in our memory, allowing us to recognise speech, music, or everyday noises that connect us to our surroundings.



- 1

Pinna
- 2

Eardrum
- 3

Middle Ear Bones
- 4

Semicircular Canals
- 5

Cochlea
- 6

Auditory Nerve

BONE CONDUCTION DEVICE

This is a type of hearing aid where the amplified sounds are transferred by a mechanical vibration through the skull bone behind our ear, to the cochlea (our hearing organ). Unlike traditional hearing aids, bone conduction devices bypass the outer and middle ear. As a result, there are no components placed inside the ear canal. Instead, they are considered off-ear hearing solutions.

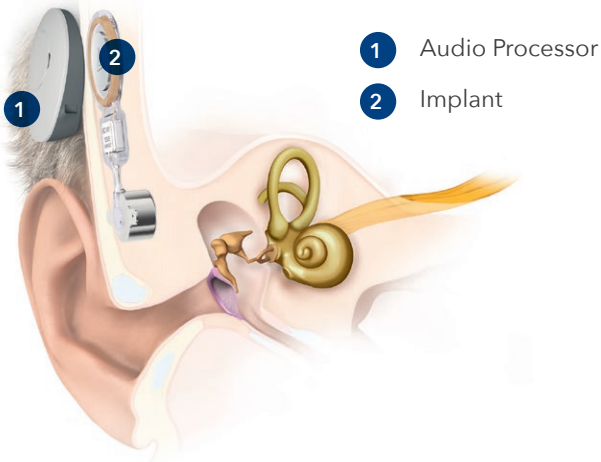
Does it involve surgery?

There are both surgical and non-surgical options.

Non-surgical options come with a sound processor held in place by a medical grade sticker on the back of your ear that is changed weekly or a headband that is worn on the head.

Surgical devices typically come in two parts; the internal implant and the external sound processor, which talks to the implant. The internal component is surgically placed into the mastoid bone behind your ear.

Some surgical systems involve an abutment that will integrate internally via a process called osseointegration with the bone of your skull. Surgery itself is of a short duration and can be completed within an hour depending on the device.



BONE CONDUCTION IMPLANT JOURNEY



- Assessment**
- «

Comprehensive Hearing Assessment
- «

Speech Understanding with existing hearing aids
- «

Discussion of tailored solutions



- Bone Conduction Trial**
- «

Trial of a bone conduction device on a headband for a two-week period
- «

Clients typically notice improvements immediately



- Medical Clearance**
- «

Consultation with a surgeon to review your physical health and risks
- «

Medical imaging (MRIs/CT) to review your ear anatomy



- Surgery**
- «

The implant surgery is relatively simple and takes 1 hour.
- «

Typically a day procedure



- Switch On**
- «

Bone Conduction Processor will be activated by your audiologist approximately 6 weeks after surgery
- «

Involves a hearing test through your bone conduction system



- Follow Up**
- «

1 follow up appointment with your audiologist to adjust the sound preferences
- «

For most clients, there is very little need for adjustments



- Annual Review**
- «

Repeat hearing assessments and device maintenance

WHO IS SUITABLE FOR A BONE CONDUCTION IMPLANT?

Bone conduction is an effective solution for individuals who have a blockage or anatomical barrier in the ear that prevents sound from travelling efficiently through the hearing system. It can also be considered for individuals who have tried traditional hearing aids without success or cannot wear traditional hearing aids due to medical reasons such as the following:

- ✓

Abnormal ear canal or absence of a pinna
- ✓

Recurrent middle ear pathology (such as infections and complications)
- ✓

Conductive and mixed hearing losses
- ✓

Fluctuating hearing loss
- ✓

Single sided deafness

The aim of a bone conduction hearing aid is to provide stable hearing awareness to assist in daily listening situations without compromising sound quality.

FUNDING OPTIONS

There is limited public funding for bone conduction devices and as a result most individuals take out private health insurance for their procedure, or they fully fund the procedure.