Cochlear®
Hear now. And always

Cochlear™ Osia® System

You've never heard anything like it

Blending hearing technology with human capacity

The human body is amazing. Our ability to see, hear, smell, touch and taste makes life richer in many ways. But sometimes your body doesn't work as expected, which can make you feel like you are missing out on important moments. Millions of people live with hearing loss around the world, struggling daily to pick up on the sounds around them and communicate with their friends, family and co-workers.[1] If you have hearing difficulties, you are not alone, and there is something you can do about it.

When developing our latest hearing implant, we looked to the body for inspiration and worked hard to keep things simple. The innovative Osia System utilises humans' natural ability to conduct sound through bone, helping you hear speech in difficult, noisy situations where people tell us they struggle the most. Its innovative technology is designed to work in and with the body, so you can get the most out of hearing every day.

We call this approach Human Design™, and the result is the Cochlear™ Osia® System.

Human Design™

The Cochlear™ Osia® System
A hearing implant reimagined

The Osia System is an innovative hearing implant that uses digital piezoelectric stimulation to send sound through the bone to your inner ear. It's made up of two parts, each with technologies designed to help you hear and communicate.

Cochlear™ Osia® 2 Sound Processor

Sitting just off the ear, it's packed full of features including wireless streaming* and SmartSound® iQ technology.

Cochlear™ Osia® OSI200 Implant

The Osia System features a powerful implant that sits entirely under the skin. The active implant includes the Piezo Power™ transducer, which generates sound vibrations.

Piezo Power™ technology

The Osia System uses a special Piezo Power transducer that expands and contracts to create powerful vibrations. Piezoelectricity has been used for years in many products like microphones, high-end speakers and medical equipment, but this is the first time it's been used for this type of application. One of the many advantages of the Piezo Power transducer is its ability to vibrate at high frequencies, within the area of sound most important for speech understanding.

Testing shows that Piezo Power technology provides powerful and consistent output performance.[2]

Designed to implant, made to last

The Piezo Power transducer has a completely different design to traditional bone conduction transducers. With no movement between parts, the technology is well suited to deliver long-term performance and durability.[2]

Straightforward surgery

The Osia implant has a slim profile and is fixed to a stable, osseointegrated (fused to the bone) foundation. Authors of a published study report that Osia System surgery was "straightforward"[3], and there is no need for a preoperative CT scan.

* The Cochlear Osia 2 Sound Processor is compatible with Apple devices. For compatibility information, visit www.cochlear.com/compatibility.

It’s not the sound that’s changed, it’s how you hear it

When you have hearing loss, part of the body’s natural hearing pathway is blocked. Although treatments for hearing loss share a common goal, their approach varies greatly. Hearing aids amplify sound and push it through the ear canal to the inner ear, and middle-ear surgeries try to repair the damaged area. The Osia System is different.

Who can it help?

If you have conductive hearing loss, mixed hearing loss or single-sided deafness (SSD), the Osia System may be a good solution for you. Conductive hearing loss can be caused by many conditions including:

- Chronic otitis media (COM)
- Atresia/microtia
- Cholesteatoma
- Chronic otitis externa
- Otosclerosis

How the Osia System is different

Though reconstructive and other surgeries can effectively treat underlying medical conditions, clinical evidence shows that, with COM for example, hearing loss requiring further treatment remains in 30% of cases[4],and repeat surgeries are common.[5] To address hearing loss, the Osia System bypasses blocked parts of the natural hearing pathway and sends vibrations directly to your inner ear.

Unlike hearing aids, the Osia System uses a small sound processor placed off the ear, leaving the ear canal free. This may negate some side effects or difficulties that wearing hearing aids can cause, such as an increased risk for ear infections.[6,7]

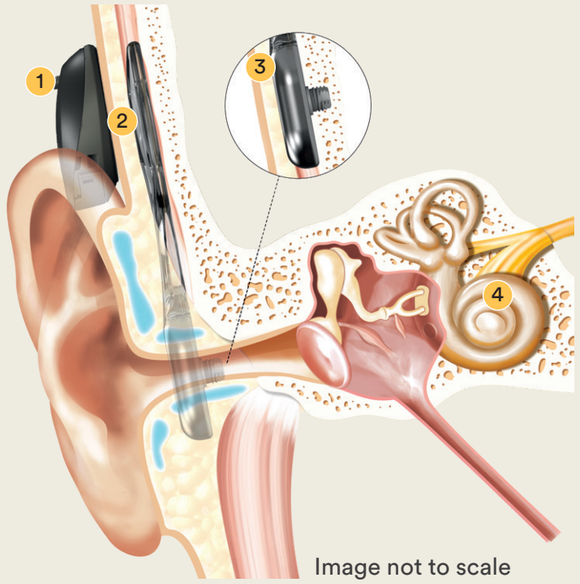


Image not to scale

1. The sound processor captures sound in the air and digitally analyses the signal.
2. The processed signal and power move through the skin to the implant.
3. The Piezo Power transducer vibrates, sending vibrations through the implant to the bone.
4. The vibrations travel to the inner ear where they are converted into electrical impulses and sent to the brain to be interpreted as sound.

Hear what you want to hear, not what you don’t

In a hearing device, more power can bring greater opportunity to hear. It can help you understand speech by creating a contrast between soft and loud sounds for a more natural sound experience.[8] It can also be critical for your hearing loss – if your hearing gets worse over time, you may need additional power in the future.

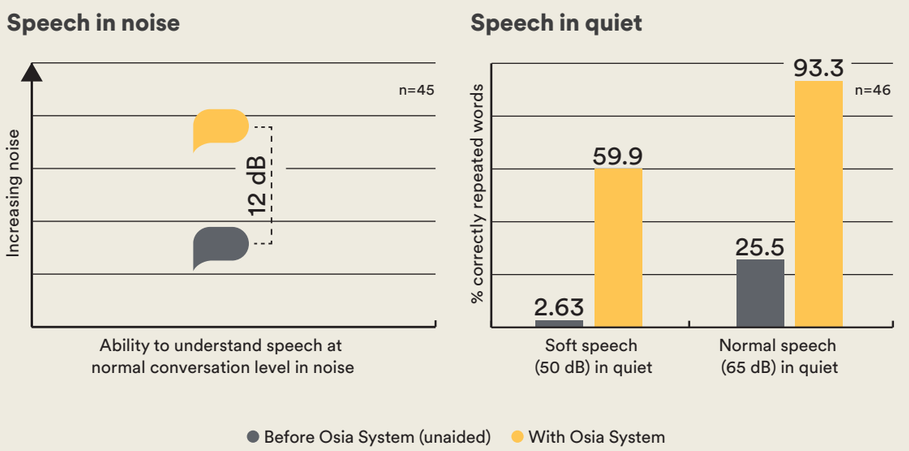
Amped up in high frequencies

The Osia System is powerful. Its unique technologies are optimised to deliver high power and loudness, especially in high frequencies important for understanding what other people are saying.[9]

The power to keep hearing

The Osia System has a fitting range of up to 55 dB SNHL (sensorineural hearing loss), which gives you access to a broad and dynamic range of sounds. A large dynamic range has been shown in studies to improve peoples’ ability to understand speech in noise[10], and it also provides capacity should your hearing loss worsen over time.

Osia users show a significant improvement in their ability to understand speech in quiet and in noisy environments.[9]

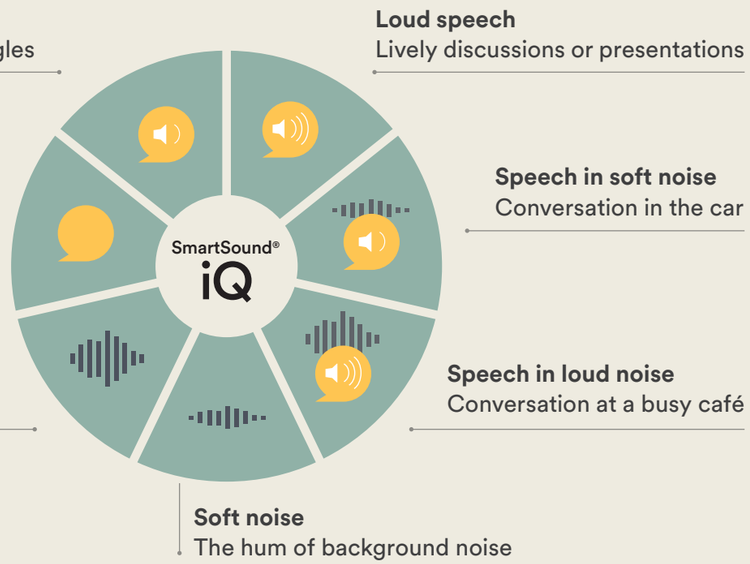


Hear what you want to hear, no matter where you are

The Osia System is designed to help you hear more clearly in those difficult listening environments, where background noise makes hearing harder.

The Osia System features SmartSound® iQ technology that is designed to help you hear better in different situations. With SmartSound iQ signal processing, your sound processor is able to automatically define what environment you're in and it will aim to deliver a clear signal to optimise your hearing experience.

The Osia 2 Sound Processor has dual microphones that will help you localise sound easier to be able to focus on conversation in a noisy situation.[11] To make your hearing experience more comfortable, the signal processing suite in the sound processor also actively works to reduce the unwanted noise around you, so you can focus on the important things.



SmartSound iQ technology is designed to automatically reduce the noise that can make hearing difficult in different environments.[11]

So slim and discreet you'll want everyone to see it

The slim, off-the-ear sound processor is light and comfortable to wear.[9] As an all-in-one unit, you simply place it on your head behind the ear, adjust your hair and you are ready to go. There are no small pieces to bother with, and your ear is left open and free.

With each sound processor, you get five colour options that you can interchange whenever you want. Blend in or stand out, it's your choice.

Designed to be durable

The Osia 2 Sound Processor was designed and tested with durability in mind. It is dust and moisture resistant and carries an IP57 rating.*

Slim, light and discreet

Weighing only 9.4 g, the Osia 2 Sound Processor is a lightweight device. It sits streamlined against the head with a low 10.4 mm projection.

* The Cochlear Osia 2 Sound Processor, with battery compartment excluded, is dust and water resistant to level IP57 of the International Standard IEC60529. Refer to relevant user guide for more information.

Streaming, as easy as it should be

Smartphones have become essential tools you to connect with friends and family. With Made for iPhone technology, the Osia System becomes a simple extension of these devices, streaming music, calls and more directly to your sound processor from any compatible Apple device. For Android™ and other smartphones, you can stream using our Cochlear Wireless Phone Clip.

True Wireless™ technology

The Osia System connects to Cochlear's wide range of True Wireless™ devices. The Mini Microphone 2+ can help you hear speech in noisy environments and over distance. The TV Streamer lets you enjoy your favourite shows without having the volume turned up too high for others. The Phone Clip is designed to make talking on the phone easier.

Discover all Cochlear True Wireless™ devices at **www.cochlear.com**

Personalise your hearing

The Osia Smart App lets you control and adjust your sound processor easily and discreetly from your smartphone or Apple Watch.* You can tune the sound the way you want to hear it, and you can monitor your status and settings.

Download on the App Store

GET IT ON Google Play

* The Cochlear Osia 2 Sound Processor is compatible with Apple devices. The Osia Smart App is available on App Store and Google Play. For compatibility information, visit www.cochlear.com/compatibility

No need to stand back, just jump in

Hearing better shouldn’t get in the way of having fun. With a few simple accessories, the Osia System can help you get the most out of many of your favourite activities.

Waterproof down to 3 metres

The Aqua+ accessory is a silicone casing that covers your sound processor to let you get involved in water activities with family and friends. With an Aqua+ accessory, the Osia 2 Sound Processor is waterproof down to three metres.*

Safe and secure

With the Osia System, you have options to help keep your device safe and secure during physical activities. There is a headband for active sports and a selection of safety lines for everyday use.

* The Osia 2 Sound Processor with Aqua+ is water resistant to level IP68 of the International Standard IEC60529 when used with LR44 alkaline or nickel metal hydride disposable batteries. Refer to relevant user guide for more information.

Hello, my name is Adrian

We talk to Adrian, a 50-year-old psychiatric nurse and passionate singer, about how the Osia System has made his life easier and given him more confidence at work.

Hi Adrian, tell us a little about your hearing journey.

I was experiencing middle ear problems and some hearing loss. Not having full hearing impaired my work. I work as a psychiatric nurse, and communication is really important. Often in group scenarios I'd have to tilt my good ear. I wouldn't be looking directly at people and it was hard to maintain good communication. It added extra stress to the day.

How did you find out about the Osia System?

Through my ENT surgeon. I've followed Cochlear for quite a few years, and I knew they had a great reputation. So, I was pretty confident. I'm a bit adventurous, so I thought, why not?

How did you feel when you first heard through the system?

I felt this sense of relief, probably why I teared up. It was more a sense of completeness, and not having to impose a little bit on people and ask them to repeat themselves. Just being able to engage like a full hearing person, it's hard to explain.

'I felt this sense of relief, probably why I teared up.'

And how is life at work now?

Work is a lot easier. It's obviously improved my relationships, because I'm more confident in what I can hear and how I can engage with people. Just not having to ask things again, or to miss parts of conversation, makes my day run a lot smoother. And to be able to hear sound on both sides makes my hearing more complete and gives me more confidence.

Finally, what would you say to someone thinking of getting an Osia System?

The Osia System has just made life easier and the advantages are so worthwhile. It's changed my life so much for the better, and I'm really grateful for that. I'd really recommend it.

It’s time to hear what you’ve been missing

The World Health Organization (WHO) has said that disabling hearing loss can lead to feelings of loneliness, isolation and frustration. For children, unaddressed hearing loss can also lead to falling behind in school. No matter what age you are, if you have disabling hearing loss, WHO recommends early intervention and treatment.[1]

Hearing evaluation

You’ll meet with a hearing health professional and complete a hearing test. If you are eligible for an Osia System, you will be able to trial our technology with Baha® Start, which offers a way of hearing through bone conduction without surgery.

Getting an implant

Once you’ve decided to move forward, you’ll be scheduled for a surgical procedure. The procedure may take as little as one hour, typically in an outpatient setting, and most people can go home the same day.[9]

Sound processor fitting

Within four to five weeks after surgery, you’ll meet with an audiologist to have your sound processor fitted. It will be adjusted to match your hearing needs, and you’ll be shown how it works. Then you’ll be ready to get out there and start hearing!

Try hearing through bone conduction with Baha Start before getting an implant.

With you through every sound

For the last 40 years, we've been working with hearing health professionals and people just like you to transform the way people treat and understand hearing loss. Together, we have been innovating and bringing people all over the globe into the world of sound.

From the start of your hearing journey we are there to support you on your path to better hearing. We also want to invite you to join a supportive and inspiring community of other Cochlear recipients to hear their stories and learn from their experience.

With Cochlear, you'll be supported by global operations in over 180 countries, all over the world.

Hear now. And always

As the global leader in implantable hearing solutions, Cochlear is dedicated to helping people with moderate to profound hearing loss experience a life full of hearing. We have provided more than 600,000 implantable devices, helping people of all ages to hear and connect with life's opportunities.

We aim to give people the best lifelong hearing experience and access to innovative future technologies. We collaborate with leading clinical, research and support networks.

That's why more people choose Cochlear than any other hearing implant company.

References

1. World Health Organization. Deafness and Hearing Loss. Available from: https://www.who.int/news-room/fact-sheets/detail/deafness-and-hearing-loss [Accessed 8 September 2020].
2. Dotevall M. Osia OSI200 Implant Technical Brief. Cochlear Bone Anchored Solutions AB, Sweden. 2020; D1602089.
3. Lau K, Scotta G, Wright K, et al. First United Kingdom experience of the novel Osia active transcutaneous piezoelectric bone conduction implant. Eur Arch Otorhinolaryngol. 2020;10.
4. Lewis A. Success rates in restoring hearing loss in patients with COM. Cochlear Bone Anchored Solutions AB, Sweden. 2020; D1805880.
5. Berenholz L, Burkey J, Lippy W. Total Ossiculoplasty: Advantages of Two-Point Stabilization Technique. Int J Otolaryngo. 2012;346260: 9.
6. Ahmad N, Etheridge C, Farrington M, Baguley DM. Prospective study of the microbiological flora of hearing aid moulds and the efficacy of current cleaning techniques. J Laryngol Otol. 2007;121(2):110–3.
7. Karaca CT, Akçay SS, Toros SZ, et al. External auditory canal microbiology and hearing aid use. Am. J. Otolaryngol. 2013;34(4): 278-281.
8. Gawliczek T, Wimmer W, Caversaccio M, Kompis M. Influence of maximum power output on speech understanding with bone anchored hearing systems. Acta Otolaryngol. 2020;140(3):225-229.
9. Mylanus EAM, Hua H, Wigren S, et al. Multicenter Clinical Investigation of a New Active Osseointegrated Steady-State Implant System. Otol Neurotol. 2020;41(9):1249-1257.
10. Van Eeckhoutte M, Folkeard P, Glista D, Scollie S. Speech recognition, loudness, and preference with extended bandwidth hearing aids for adult hearing aid users. Int J Audiol. 2020 20;1-12.
11. Flynn MC. Smart and Small – innovative technologies behind the Cochlear Baha 5 Sound Processor. Cochlear Bone Anchored Solutions AB, 2015; 629761

Cochlear Ltd, (ABN 96 002 618 073), 1 University Avenue, Macquarie University, NSW 2109 Australia
Tel: +61 2 9428 6555, Fax: +61 2 9428 6352

EC REP **Cochlear Deutschland GmbH & Co. KG,** Karl-Wiechert-Allee 76A, 30625 Hannover, Germany
Tel: +49 511 542 770, Fax: +49 511 542 7770

Regional Offices

Cochlear Ltd, (ABN 96 002 618 073), 1 University Avenue, Macquarie University, NSW 2109 Australia
Tel: +61 2 9428 6555, Fax: +61 2 9428 6352

Cochlear Americas, 10350 Park Meadows Drive, Lone Tree, CO 80124, USA
Tel: +1 303 790 9010, Fax: +1 303 792 9025

Cochlear AG, EMEA Headquarters, Peter Merian-Weg 4, 4052 Basel, Switzerland
Tel: +41 61 205 8204, Fax: +41 61 205 8205

Cochlear Latinoamerica, S. A., International Business Park Building 3835, Office 403 Panama Pacifico, Panama
Tel: +507 830 6220, Fax: +507 830 6218

www.cochlear.com

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