Cochlear Family

January 2024

Keeping you supported, connected, inspired

Cochlear®

From big boxes to tiny devices:

How the Nucleus® System evolved

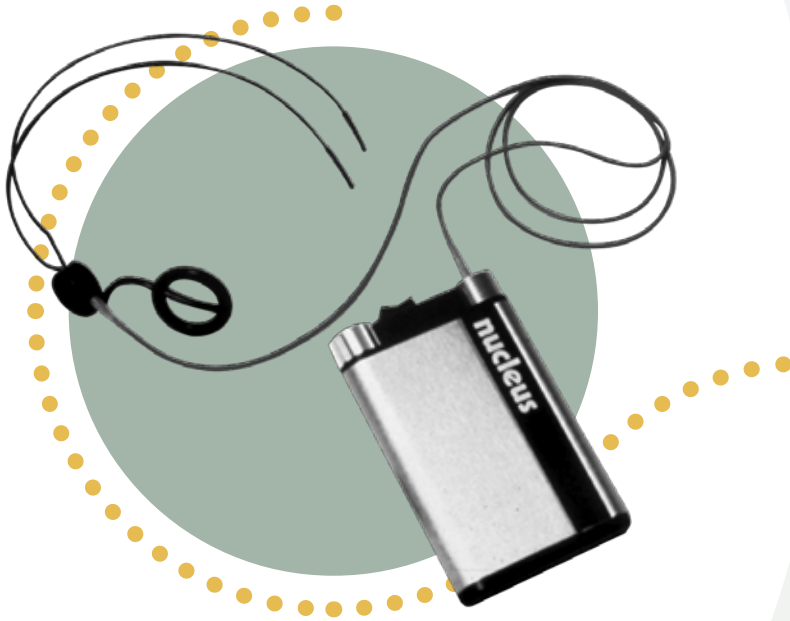
Ever wonder how cochlear implants have changed over the past 40 years? We travelled back into the archives, and spoke to some of our earliest recipients, to see how the technology has changed and what that means for recipients around the world.

1977-1997: Introducing a new way of accessing sound to the world

Professor Graham Clark had been working on developing a treatment for hearing loss for over a decade when he invented the first multi-channel cochlear implant back in 1977, with Rod Saunders becoming the first to hear with it in 1978.

Then in 1981, Cochlear was born when a company called the Nucleus group partnered with the Australian government to bring the first commercially available multi-channel cochlear implant to more people. Four years later, the Nucleus® 22 Implant and the Wearable Sound Processor (WSP) became the first multi-channel system to receive premarket approval from the USFDA.

If you went back in time, you would be surprised at how big our first sound processor was: it was box-shaped, worn with a shoulder strap. A wire went from the box up to your ear.



The first Cochlear™ WSP, released in 1982

“My first sound processor was body-worn and required a wire that went under my clothes to connect to the microphone and coil on my head. It was all new, and we didn’t have all the resources and help we have today,” says Pat, who received her Nucleus 22 Implant in 1988 at age 46.

More than 30 years later, Pat, who lives in the US, now loves going to see live symphony concerts and has upgraded her sound processor six times.

“It’s so much more comfortable. Being able to wear it on the ear without wires has been one of the biggest improvements since those early days. And the advances in programming options have been astounding,” says Pat.

The Cochlear Esprit Sound Processor for Nucleus 22 recipients, released in 2004

1997-2017: Innovating how you hear and live

The Nucleus sound processor started to look more familiar to the ones worn today. In 1998, we released of the first behind-the-ear sound processor, making it smaller and more user friendly as well as more comfortable and discreet.

In 2005, Cochlear released the first water-resistant sound processor – the Nucleus Freedom® – giving people with a cochlear implant the confidence to enjoy an active lifestyle with their sound processor. In 2012, Aqua accessories were launched, enabling people to swim with the sound processor for the first time.

After the release of the Nucleus 5 Sound Processor (which was the smallest and most water-resistant sound processor when launched in 2009), the Nucleus 6 Sound Processor was released in 2013, introducing SmartSound® iQ with SCAN technology and wireless connectivity. True Wireless™ devices released the following year, offered more ways for recipients to access audio directly from their TV, phone or through a Mini Microphone, without needing bulky devices with wires.

The first Nucleus Kanso® Sound Processor was launched in 2015, offering an off-the-ear hearing solution designed to be more comfortable for people who wore glasses. It also meant recipients now had a choice in sound processors, along with the Nucleus 6 Sound Processor.

2017-2023: Smaller size and direct streaming are game changers

The launch of the Nucleus 7 Sound Processor in 2017 also heralded the first sound processor which allowed streaming directly from a compatible iPhone, iPad and iPod touch. Android compatibility followed a year later.

This introduced a whole new way for recipients to stream videos, phone calls and access video conferencing.

Casey, from the US and one of the earliest child recipients, shares his thoughts on how the changes over the past few decades have helped him: “The technology has leapt ahead since 1987. For one, sound processors are a lot smaller! People don’t even notice them… I love streaming music and telephone calls. Wireless connectivity even blocks out any background noise, making phone calls even more accessible.”

In 2022, sound processors continued to get even smaller and lighter with the release of the Nucleus 8 Sound Processor, which is also the first to be ready to provide direct streaming using next-generation Bluetooth® LE Audio when it becomes available.

What’s next?

Follow us on **our social media** to keep up to date on our latest news, product releases and more. It’s also a great way to share comments and let us know what you find helpful and what you’d like to see next. We are always working to develop more ways to help you hear more clearly, access sounds in new ways and make it easier for you to do what you love.

To find out more about the latest Nucleus 8 sound processor and the latest features, visit our website.

Nancy is making music and memories again

Nancy, Cochlear™ Nucleus System recipient

Nancy's love of music started when her father bought an organ and encouraged her to take lessons from the age of six, saying "someday you'll be glad that you know how to play."


Nancy, Cochlear™ Nucleus System recipient

However, as Nancy's hearing deteriorated and she felt increasingly isolated, playing her beloved piano was no longer something she was able to enjoy.

"Hearing aids work wonders for a lot of people, but with my profound hearing loss, I was pretty much just getting by," says Nancy. "It was one year to the day that I had totally given up that I had my first Cochlear surgery. It transformed me. It gave me my life."

Nancy thought her Cochlear™ Nucleus® 6 Sound Processors "were the cat's pyjamas," but when she upgraded to the Nucleus 8 Sound Processor, she immediately noticed the difference in comfort and size, and appreciated the new features.

"The Nucleus 8, it was so easy. I put them on and I could tell the difference right away. And I thought, 'Wow' – that's a magnificent feeling right there."

Unlike her older devices, the Nucleus 8 Sound Processors enabled Nancy to directly stream music from her compatible smartphone and that got her thinking about other possibilities.

While the ForwardFocus± feature is designed to reduce unwanted background noise so you can better hear the conversation in front of you, Nancy has found that it also allows her to focus on the notes she is playing on the piano. ForwardFocus can either be automatic, as enabled by your clinician, or operated manually by toggling a button on and off in the Nucleus Smart App on your phone, as Nancy does.

"The N8s connect directly with my phone. I can listen to music, and it has an app. Then I thought 'Hmm, I wonder about my piano'"

Nancy, Cochlear™ Nucleus System recipient

"So, I put on the ForwardFocus and started playing. I thought, 'Holy cats!'," says Nancy of the difference in sound quality she was hearing from her piano. "I never thought I was ever going to hear that again."

Now Nancy is enjoying playing music with family again: "My grandson, when he started playing the viola, it's gorgeous sound. And I would always tell him, he was helping me with my music rehab."

What else could you do to help you start enjoying music again? Here are a couple of quick tips:

1 **Listen to familiar songs and melodies**

You can listen to music anywhere, but research shows that directly streaming music from your compatible# Android™ or Apple phone to the latest Nucleus sound processor(s) can offer the proven benefits of greater clarity.[4-7]

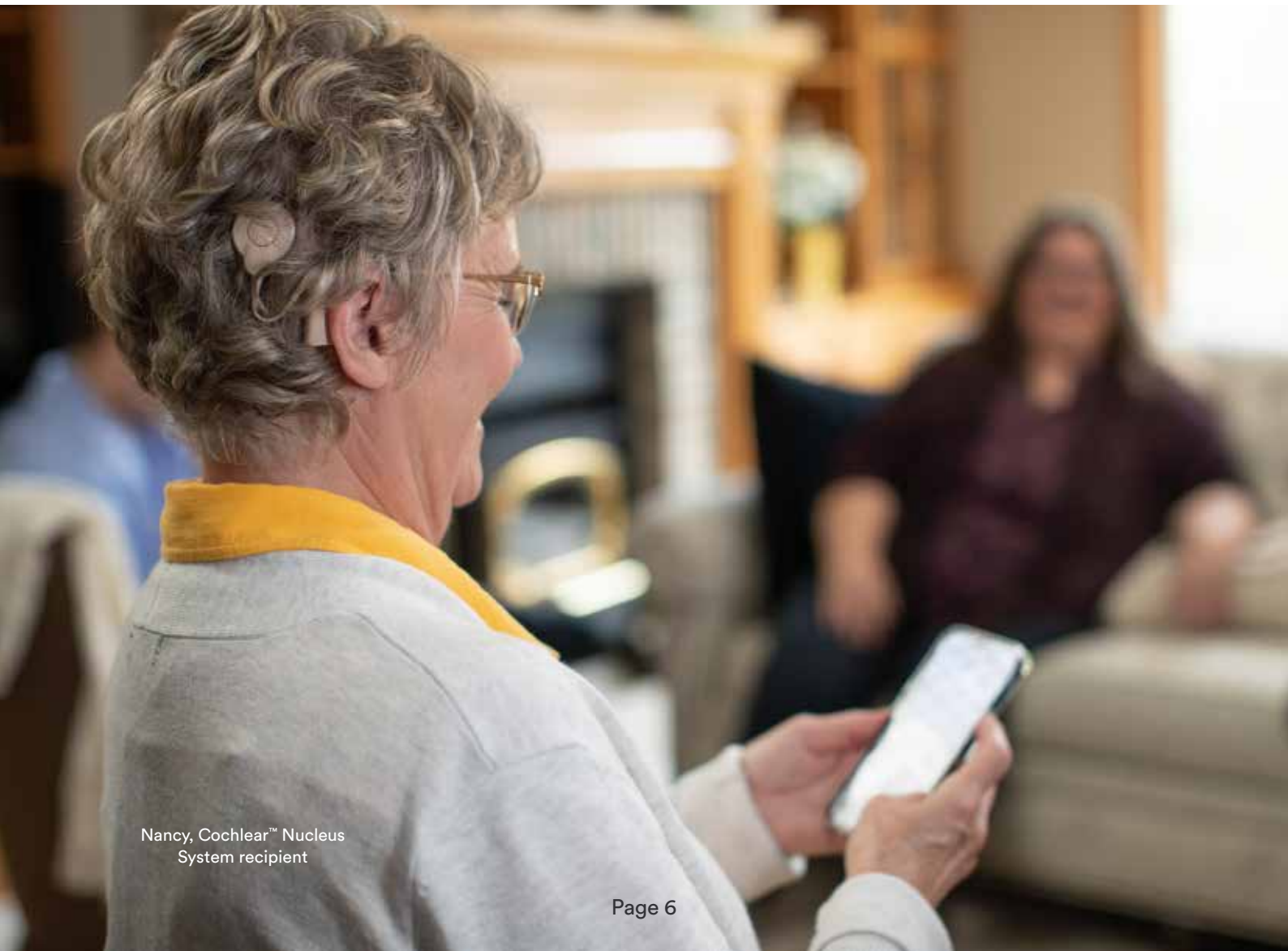
2 **Practise listening daily**

As the old adage goes, persistence pays off and so, practising often will help your progress. Listening practise should be broken up into short, but frequent sessions. Try doing this for 10-15 minutes a day, five days a week. A good idea is to schedule this into your calendar as a reminder around work and other commitments.

For a more tailored rehabilitation plan, we recommend speaking with your hearing healthcare professional.

Are you interested in finding out more about the benefits of upgrading to the Nucleus 8 Sound Processor?

Find out more.



Nancy, Cochlear™ Nucleus System recipient

Tips for job seekers and hearing loss in the workplace

Have you experienced discrimination in the workplace because of hearing loss? Or turned down a career opportunity, or avoided applying for a job because you were worried about your hearing loss being a barrier?

Sharon, a 33-year old living in Amsterdam, is all too familiar with this experience. Now a leading expert in fraud investigation and forensic accounting, Sharon once struggled to get a job as a cleaner because of her hearing loss.

An unconscious bias in the workplace is largely to blame for that says, Sandra Ballij, social entrepreneur and CEO of Ctalents, a recruitment agency that specialises in placing people with vision impairment and hearing loss.

Sandra helped Sharon find the role in which she now thrives. But Sandra recalls many examples of candidates with hearing loss she has placed in corporate roles who have received misplaced praise from co-workers for completing basic tasks or simply turning up on time.

Sandra Ballij, Social entrepreneur and CEO of Ctalents

How Sandra built a career that helps others find theirs

Sandra's passion for her mission-led business is born from personal experience. After being diagnosed with the Besnier Boecks disease while at university almost 20 years ago, she found herself briefly in a wheelchair as the result of an infection in the legs.

"No one talked about my future anymore – everyone was focussed on the disease. I felt erased, unseen. I felt I had no future, no outlook anymore. Nobody should have this feeling. Everyone should be seen, heard and appreciated for their talents."

After being told a corporate career was beyond her reach, she was determined to prove people wrong and, after a successful career in banking, launched Ctalents in 2014 to help others fulfill their potential. The organisation has now placed more than 540 people in a wide range of roles.

Sandra Ballij, social entrepreneur and CEO of Ctalents

"People who are different can add value because they are different. We're taking about people who can enrich an organisation. So the question is, how can we connect this power with market demand."

Sandra Ballij, social entrepreneur and CEO of Ctalents

Strategies for career seekers

Sandra is all about encouraging confident thinking, but she also recognises that applying for a job with hearing loss or returning to the workplace after receiving a cochlear implant can be a challenge.

If you can relate to this, Sandra offers some tips to consider:

- It might be a good time to consider a new role or area of work. Don't confine yourself to past roles. Play to your strengths and think laterally about your skills.
- If workplace listening fatigue is a barrier, mix up your day and work schedule. Remove your sound processors if you need to tune out background noise and give yourself a break. Find a balance between meetings and focus time.
- If you're looking for an office job, research tools that can help you, such as live subtitling or transcription options for video calls.
- Don't be afraid to connect with other people. Most people struggle with something – be open about it and share your struggles.
- Others will find it difficult to start a conversation about your hearing loss. Acknowledge it is different for you – and talk about it. Approaching these topics with humour can also help.
- Advocate for yourself. Be open and honest about what you need. You'll be surprised by how others are open to new solutions.
- If it doesn't feel right in the beginning – it's not the right place for you.

It's no surprise that Sandra is purpose-driven. Before Ctalents, she built a successful café business that only employed people with hearing loss. Orders could only be placed in sign language (a video in the café provided instructions).

The cafe, which now employs more than 100 people with hearing loss, came on the back of Ctaste, a restaurant where only blind people worked and guests had dinner in the dark.

Sandra's focus now is squarely on workplace change. Her vision for Ctalents is to place 5000 people by 2030 in at least three countries and at least one CEO.

About 50% of the agency's efforts focus on workplace education, accessibility and culture shaping. But Sandra says candidates themselves need support to overcome a lack of confidence and perceived barriers.

"Think about it, talk about it and plan it. This can also be an eye opener for a lot of other people in the office. It's time to rethink the workplace," she says.

"And find your confidence."

Why winning awards matters for recipients

You may have never heard of a Red Dot Award or even the Good Design Awards, but there's a chance you're using a product that has won at least one of these prestigious international awards! Some of our products, including our latest release – the Cochlear™ Nucleus® 8 Sound Processor – have won a Good Design Award and/or the Red Dot Award for outstanding engineering and product design.

Why should this matter to you? We asked Jan Janssen, Chief Technology Officer at Cochlear, to explain how winning awards help our recipients to get better outcomes, and what it means for the Cochlear people who design them.

What is the Red Dot Award?

Every year, the Red Dot Award's international jury of 40 recognised experts evaluate the best products of the year against nine strict criteria including innovation, functionality and durability. Similarly, products recognised with a Good Design Award demonstrate excellence in professional design, innovation and its impact on social and environmental outcomes.

"The Red Dot and Good Design symbols are recognised internationally as the most sought-after quality marks for good design," says Jan. "Manufacturers and designers from around the world vie for recognition by entering their products in one of many categories ranging from bicycles to bedroom furniture and motorhomes to medical devices."

The Nucleus 8 Sound Processor has now won three awards, most recently the Good Design Award for Engineering Design and for Product Design, as well as a Red Dot Award for design excellence.

"This marks Cochlear's 4th Red Dot Award for product design of medical devices, which includes the Nucleus 7 and 5 sound processors, as well as the Baha® 5 Sound Processor. The Kanso 2 Sound Processor achieved the highest accolade in that competition: a Gold Good Design Award."

Why do we enter awards like this?

"It helps us measure ourselves against other companies in designing products, so it is an external validation to test our design capability compared to what other leading companies are doing. It's about product design overall, not just us against our competitors.

"It's also a great opportunity for us to create awareness around hearing loss in a world that has still very limited understanding of what cochlear implants are. That offers important motivation for us to take part in these design awards."

How do design awards help recipients?

"Awards confirm the value of how we try to improve the outcomes for customers. It is a sign that our products are well designed and have the functionality that recipients are looking for.

"This goes to the heart of what people with cochlear implants are looking for.

"Awards offer external validation that we have listened to the needs of our customers, and that the juries have recognised that we are indeed making important steps forwards in meeting our customer needs."

How does this apply to the Nucleus 8 Sound Processor?

"With the Nucleus 8 we focused on being smarter and better connected compared to earlier sound processors. We know size is important. And we know that helping people optimise their hearing outcomes matters – for example, how they use the telephone.

"We listened to our recipients, and we applied this feedback with the Nucleus 8 Sound Processor. Recipients wanted a product that would fit to the ear more ergonomically , that would improve their hearing outcomes through SmartSound iQ with SCAN and ForwardFocus. And then also better connectivity."

SmartSound iQ2 with SCAN2 technology in our sound processors helps by automatically adjusting to help you hear your best in different hearing environments.[8-12] ForwardFocus technology works by reducing the noise coming from behind you so you can more easily hear face-to-face conversations.[13] The Nucleus 8 Sound Processor offers improvements in this technology.[~,^]

What are you most proud of with the Nucleus 8 Sound Processor?

"The Nucleus 7 Sound Processor was a massive step forward," says Jan. "With the Nucleus 8, I'm most proud of how we've taken a great product and made it even better. We get a lot of feedback on the size and comfort of the product.

"Size isn't a trivial thing – so to be able to improve the technology while also making it smaller with the Nucleus 8 Sound Processor is great.

"And we know the wireless connectivity is a game changer. When we introduced it in the Nucleus 7, for many people it was the first time they could start to use the phone again. It opened up a new world of hearing for many. And the Nucleus 8 Sound Processor will take that a step forward with the upcoming Bluetooth® LE Audio.~

Ready for the next generation Bluetooth technology, recipients will be able to experience direct connectivity in more places and from more devices than before, with better sound quality than the earlier generation of Bluetooth technology.[14-15, †, ¥]

What does winning design awards mean for Cochlear staff?

"People often have dedicated maybe two, three, or even five years of their professional career working on developing a new sound processor," says Jan. "Awards are a form of public recognition that our people wouldn't typically get in another way.

"It shows our people we value their work, and we think it's of such a standard that we want to take the opportunity to have a go at winning one of these awards."

What does this mean to you?

"And for me? I think we set a high bar. I think we listen to our customers, and we take the time it needs to put out the right product. Winning these awards consistently means we didn't get lucky. It's an illustration that we're not resting on our laurels and that we always continue to look for ways to do better."

Nicola's 5 best tips to get the most out of Osia® System

Nicola, a 47-year-old from the UK, put a lot of energy and planning before catching up with loved ones on the phone.

Due to her hearing loss, Nicola needed to take multiple steps to manage phone calls, such as scheduling them so she could arrange to be in a quiet room on her own. She also needed to use her phone's loudspeaker.

Even then, Nicola still found she missed key pieces of conversations, but "pretended she heard it all".

So, when Nicola's best friend of more 30 years relocated to New Zealand, Nicola felt like she was losing a part of herself. Knowing the relationship hung on long-distance phone calls, the friendship suddenly felt at risk.

"I was absolutely gutted and heartbroken – because we were always inseparable. We were each other's right arm. We'd been through a lot together – a lot of good times and a lot of bad times."

But since receiving her Cochlear™ Osia® System in 2021, Nicola now streams phone calls directly from her smartphone to her Osia 2 Sound Processor, and can stay in touch easily and regularly with her friend, Becky.

Nancy, Cochlear™ Osia System recipient

“We do a lot of facetime and calls through Messenger. We always pick up where we left off. The conversation flows a lot more and I don’t miss out on what we’re talking about.”

With her device always connected to her phone when she’s out and about, Nicola picks up calls anytime, anywhere.

Though that turned some heads recently. “I was out in a clothes shop and had a call from Becky’s sister. I was wandering around the store talking when another couple in the shop were looking at me. I was nattering away! It was so funny!”

Nicola is quick to see the lighter side of many situations she finds herself in now with a hearing implant. At a recent dinner in a busy restaurant, she heard a lot more than just a lively conversation over dinner.

“My partner has his own small business so four of us went out for dinner in a noisy Italian restaurant. I was struggling to hear so I put my Mini Mic in the middle of the table. After the meal, I went to the toilet – and could still hear the conversations!”

Nicola hasn’t missed a beat since using her device, socialising with friends, getting active in the swimming pool (with her Aqua+ accessory!), heading out for a dance with her girlfriends. By trialling different features and accessories, she knows what works for her.

Here are Nicola's five tips to help you get the most out of your Osia 2 Sound Processor:

1 Connect to your mobile phone and start streaming

Don't miss out on conversations – pair your compatible smartphone with your device and you can take calls when you're out and about.

2 Try retention devices when being active in crowded places

Nicola "loves to have a boogie" when '80s and '90s music (especially Madonna) starts to play when she's out on the town with friends.

"I do like a good '90s dance because that was my era leaving school and going out to the pub and club scene."

Whether she's at a crowded pub on the dance floor, she has used a Cochlear Safety Line with Hair Clip.

Nicola also suggests checking with your audiologist if you are worried about sound processor strength for the best retention of your device.

3 Try different programs to find out what works for you

Trialling different programs available in the Osia Smart App helped Nicola adjust to various environments including a large open-air concert.

"Last year we went to see The Killers in Manchester. It was a huge crowd – you're talking 60,000 to 80,000 people at an open-air concert," she says.

Changing the setting on her device to the "outdoor program" helped to maximise the experience for Nicola. Talk to your audiologist to add or change the present programs available to you in your Osia Smart App.

"It was amazing to be able to hear like normal. Before, it used to be on the dull side."

4 Find which Cochlear devices work for you

Since Nicola started to use the Cochlear Wireless Mini Microphone 2+, which she places in the middle of the table, she has been able to socialise confidently with friends in a noisy pub or restaurant.

5 Reach out to others via social media

At the time, Nicola struggled to find anyone in the UK with an Osia System sto find out about their experience and learn more. She had to reach out to recipients in the US who she found through cochlear implant social media channels. Since then, Nicola has set up her own Facebook group in the UK, called Cochlear Osia Support Group UK.

"Before my Osia, I sat at the end of the table not really engaging in conversations, not being able to hear what they're talking about. I isolated myself."

Nicola,, Cochlear™ Osia System recipient

Managing phone conversations with confidence

In an increasingly digitally connected world, the way we interact with each other has evolved over time and has made communication more accessible for individuals with hearing loss. We share some practical tips on mobile phone usage and some simple rehab tips to help you optimise your hearing on the phone.

Getting started

Before trying any exercises over the phone, your audiologist will show you the different ways to use your technology: for example, you can use the speaker feature on the phone, or hold the receiver against the microphone of your processor, stream wirelessly from your smartphone, or use the telecoil inside your processor. Using your chosen method, start with an exercise you can already do easily with your speaking partner without lipreading. Try to repeat back what is said. Remember to listen for the key words and aim to get the gist.

Remember to speak to your hearing healthcare professional for more advice.

Exercises that work well over the phone:

- Sentences people say every day.
- Words with a common theme like your family names, months of the year.
- Sentences on a specific topic such as booking a restaurant or arranging a trip to the movies or a picnic.
- Following and repeating a passage of text over the phone. Material that works well includes recipes or children's stories. You could email a piece of familiar text to your partner and ask them to read it to you over the phone, so that you can become accustomed to their voice.
- Ask your partner to say 10 things about themselves and repeat back each item; for example, I have brown hair, I am 6 ft. 2 inches tall, I work on a farm, I ride a motorcycle, my favourite hobby is football.
- Try information transfer exercises. Ask your partner to look out of the window and describe the house across the road, while you repeat back.

What to do when you are unsure what your partner says

- Always try to repeat back as much as you can to check understanding using "Did you say...?"
- If you still can't get a word or phrase after two repeats, ask your partner to use a different word or say it a different way—this is the fastest way to get back on track.
- Ask your partner to spell the word—it's easier if you have pen and paper near the phone.
- It's important to be very specific when asking your partner to help you. Saying "I can't understand you", or "I can't get that" or "sorry?" is likely to result in your partner talking more loudly, which may sound distorted.
- Ask your partner to use a normal conversation level, to speak more slowly and to make it clear when they change the subject, for example, "Can we talk about the arrangements for dinner next week?"

Tips

- Practice, practice, practice—most recipients who are confident phone users speak on the phone every day.
- Keep the first phone calls short. A few successes will help build your confidence.
- Start with a familiar partner—someone whose voice you know you understand quite well. It helps if the person has observed your audiologist work with you on the phone.
- When you first start, it helps if your partner is in a quiet place. If you can hear too much background noise, ask them to call you back from a quiet location.
- Streaming directly from your compatible smart phone will allow a very clear signal with no background noise.
- If you are listening with the phone held up to your processor, make sure your phone is in a good position.
- If you are using the telecoil, you may reduce interference by moving away from electronic items such as computers and fluorescent lights.
- Many people like to have their phone on speaker mode when they are in a private setting.

Remember to speak to your hearing healthcare professional for more advice.

Cochlear Family

We hope the year ahead is filled with the beauty of sound for all our Cochlear Family members. May you enjoy special moments with your loved ones and experience new possibilities in 2024.

Happy New Year!

Share your story with Cochlear Family

Cochlear Family wants to hear from you. Share your story, tips, tricks, advice, ideas and any questions you might have.

Get in touch >

Hear now. And always

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* Launch dates relate to the US; other countries may differ.
† As Bluetooth LE Audio compatible devices become available, a firmware update will be required for you to use certain features.
¥ Auracast™ broadcast audio capability is subject to third party adoption of the Auracast protocol.
± ForwardFocus is a clinician-enabled feature that can be user controlled or automated.
The Nucleus 8 Sound Processor is compatible with Apple and Android devices. For compatibility information and devices visit www.cochlear.com/compatibility and www.resound.com/compatibility
~ Compared to previous generation Nucleus 7 and Nucleus 6 Sound Processors.
^ Compared to Nucleus 7 Sound Processor with ForwardFocus on.
! The Cochlear Osia 2 Sound Processor, with battery compartment excluded, is dust and water resistant to level IP57 of the International Standard IEC60529. The Osia 2 Sound Processor with Aqua+ is water resistant to level IP68 when used with LR44 alkaline or nickel metal hydride disposable batteries. Refer to the relevant user guide for more information.

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Please seek advice from your health professional about treatments for hearing loss. Outcomes may vary, and your health professional will advise you about the factors which could affect your outcome. Always follow the directions for use. Not all products are available in all countries. Please contact your local Cochlear representative for product information.

Views expressed are those of the individual. Consult your health professional to determine if you are a candidate for Cochlear technology.

The product images shown are for illustrative purposes only and may not be an exact representation of the product.

Cochlear's range of Smart Apps and Support Apps are available on App Store and/or Google Play. For information regarding the sound processors, operating systems and devices that are compatible with the Cochlear's range of Smart Apps and Support Apps, visit www.cochlear.com/compatibility.