



Cochlear®

Hear now. And always

Making progress

Adult Cochlear Implant
home-based auditory
training manual

Contents

Auditory training	4
Essential tips for auditory training	5
Auditory training exercise plan.....	8
Section A: Getting started	11
Practice working out the sound and speech from a list of possibilities, and repeating speech	
Module 1: Environmental sounds checklist.....	12
Module 2: Identifying speech sounds (vowels and consonants)	15
Module 3: Recognising words (known topics).....	21
Module 4: Recognising sentences (known topics).....	22
Module 5: Recognising link sentences	24
Module 6: Text following – passages read aloud.....	26
Module 7: Recognising common phrases.....	34
Section B: Making it more challenging	36
Practice repeating and understanding speech in quiet and noisy backgrounds	
Part 1: Practising in a quiet background.....	37
Module 8: Recognising sentences (no topics)	37
Module 9: Recognising words (no topics)	40
Module 10: Interactive stories.....	42
Module 11: Information transfer – complete the missing information	44
Module 12: Information transfer – describe, perceive, draw	45
Module 13: Role Play	46
Module 14: Scripted conversation.....	49
Module 15: Questions.....	50
Part 2: Practicing in background noise.....	52
Part 3: Practicing on the telephone	56
Appendix 1 Extra exercise copies	60

Authors

Belinda Henry

PhD, DipAud, BSc (Hons), MAudSA (CCP)

Current Position (from December 2014)
Audiologist – Clinical Leader
Hearing Implant Program
Lady Cilento Children’s Hospital
Queensland, Australia

Audiologist
Mater Cochlear Implant Clinic
Mater Health Services
Queensland, Australia
and
Academic Title Senior Lecturer
School of Health and Rehabilitation Sciences
University of Queensland
Queensland, Australia

Karen Pedley

MSc (Aud), BSc (Hons), MAudSA (CCP)

Audiologist
Manager, Attune Hearing Implant Centre
Queensland, Australia
and
Academic Title Senior Lecturer
School of Health and Rehabilitation Sciences
University of Queensland
Queensland, Australia

Qian-Jie Fu

PhD

Professor
Department of Head and Neck Surgery
David Geffen School of Medicine
University of California, Los Angeles
California, USA
and
Scientist III
House Research Institute
2100 West Third Street, Los Angeles
California, USA

Acknowledgements

Some of the exercises in the Adult Cochlear Implant Home-Based Auditory Training Manuals are from the Cochlear Adult Auditory Rehabilitation Guide (Pedley, Lind & Hunt, 2005) and were originally included in the Cochlear Adult Rehabilitation Manual (Mecklenburg, Dowell & Jenison, 1982).

The authors wish to thank the cochlear implant recipients at the Mater Cochlear Implant Clinic, Queensland, Australia, and the Attune Hearing Implant Centre in Queensland, Australia, who trialed and provided valuable feedback on an earlier version of the manuals, as well as Mater Health Services audiologists Barb Plath and Anika Batros, for providing valuable feedback on an earlier version of the manuals and Guide for Clinicians.

With special thanks to Eulalia Juan (Pedagogy MB.Speech pathologist (SLP) MB and Audiology MSc. at the HSLLENT department. Spain) for the addition of new sections for listening in background noise and on the phone.

Auditory training

Why do we do auditory training?

Listening with a cochlear implant enables you to hear sound. However, this sound is very different from natural hearing. Also, for some people it may be some time since they have heard sound or the full range of sounds in speech. In order to get the most out of your cochlear implant, it is important to practise listening. Auditory training helps you learn to understand the speech you hear with your implant and improve your communication. Listening practice should start in the weeks following switch-on of the cochlear implant.

How do we do auditory training?

This manual contains auditory training exercises for you to complete at home. You will be guided through the manual by your clinician. Everyone differs in how much they can hear initially and how quickly they learn to use their cochlear implant. Therefore, this manual includes a range of exercises covering abilities from identifying sound and speech to recognising and understanding speech. As you move through the manual, the exercises become more challenging. By the end of the manual, the exercises are done in background noise to make the task challenging and more like the environments in which we often find ourselves communicating.

How do I know which exercise to complete?

Included in this manual is an Auditory training exercise plan. At each appointment your clinician will discuss with you which exercises you might like to try and will provide guidance about how to make the most out of this manual. Together with your clinician you can write your plan each session, and there is plenty of room for you to write notes about your successes and challenges on the exercises completed. The plan will be reviewed and updated each session as you progress.

How long do I need to continue doing auditory training?

This manual is aimed primarily at people who have just received their cochlear implant, to use during the first few months. The length of time that you need to do auditory training varies, depending on how long you have been with limited hearing, whether you were still able to use a hearing aid in your implanted ear in the period before your cochlear implant, and the availability of opportunities for listening and conversation with your cochlear implant in your everyday life. Regular auditory training during the first few months after you get your cochlear implant is beneficial.¹ Scientific studies have also indicated that auditory training is beneficial for some cochlear implant recipients who have been using the devices for many years.² Are there things you would like to be able to do but don't feel confident enough to try? There may be times when you will want to do some refresher training as well. Your clinician will guide you on using this manual and which exercises would be appropriate.



Essential tips for auditory training

Auditory training will be the most beneficial if you:

- concentrate on using listening alone (unless instructed to also use lip reading in the exercise)
- listen with your cochlear implant alone (if you use a hearing aid in the other ear, turn it off during the training time)
- Consider the possibility to stream audio-input via direct streaming or via wireless devices like Minimic 2+ to train the target ear, as in a sequential implantation or bimodal and SSD users
- practise in a quiet room at first
- check that you are using the speech processor program and settings you hear best with before you start
- use a conversational level voice
- practise regularly – about 30 minutes a day on five days each week
- practise when you are feeling fresh and relaxed

Tips for your training partner (speaker)

The clinician will guide you in the use of this manual. It is a good idea to practise the listening exercises each day at home at the same time, so it is part of your regular routine. Initially find a quiet part of the home to do the training.

Below are a few tips that may be helpful

- Auditory training is mostly done with hearing alone (without lip reading). The best way to do the training is for the listener to look down so they can't see the speaker's face. Avoid covering the speaker's mouth as this changes the sound of the speech.
- Confirm the parts of the recipient's response that are correct.
- The speakers should give positive feedback. Good alternatives to saying "no, that was wrong" are: "listen again", "nearly right, listen to the end of the sentence again", or "it sounds a bit like that word but it's a different word".
- If the recipient has difficulty with the exercise, the speaker may need to modify it using the tips provided in the manual. For example, the speaker can give a clue word, slow down their rate of speech, emphasise particular words or, if needed, let the recipient see the speaker's face. However, the speaker should always end by saying the word or sentence by hearing alone (without lip reading).
- Over time, as the recipient's listening skills improve, the speaker can make the exercises more challenging by:
 - increasing the distance between the recipient and the speaker (for example, by sitting across a table) or sitting on the non-implanted side
 - offering less repeats – encourage more guessing
 - gradually increasing the noise in the environment by turning on the radio "off station" with static noise in the background, or to a station with music or talking, increasing the volume of the noise as you progress
 - speaking a little faster.



Auditory Training Exercise Plan

Exercises to complete

- completed by clinician and recipient
- note module/exercise and/or page number

Recipient notes

- completed by recipient

Remember to look at the "Essential Tips" before you start each session

Date: / /	Time since switch-on:		
Date: / /	Time since switch-on:		
Date: / /	Time since switch-on:		

Section A Getting started

Practice working out the sound and speech from a list of possibilities, and repeating speech

Module 1

Environmental sounds checklist

Why?

To help you develop an awareness of the sounds around you in the environment and learn to identify these environmental sounds. There are some sounds that you may not have heard for a long time and you will need to re-learn them, and other sounds may sound quite different with a cochlear implant.

How?

Spend some time each day listening to the sounds around you and see if you can identify the sounds. Complete the following list as you go.

Exercise

Lower pitched (deeper) sounds

- | | |
|---|---|
| <input type="checkbox"/> fridge humming | <input type="checkbox"/> kettle boiling |
| <input type="checkbox"/> man's voice | <input type="checkbox"/> air conditioning |
| <input type="checkbox"/> car engine from inside the car | <input type="checkbox"/> wind |
| <input type="checkbox"/> fan | <input type="checkbox"/> a zipper |

Higher pitched (squeaker) sounds

- | | |
|---|---|
| <input type="checkbox"/> birds | <input type="checkbox"/> child's voice |
| <input type="checkbox"/> car indicators | <input type="checkbox"/> clothes rubbing together |
| <input type="checkbox"/> cicadas | <input type="checkbox"/> wire coat hangers on a metal rod |
| <input type="checkbox"/> tapping on computer keyboard | <input type="checkbox"/> microwave or washing machine beeps |
| <input type="checkbox"/> frying food | <input type="checkbox"/> light switch |
| <input type="checkbox"/> rubbing hands together | |

Rhythmic sounds

- | | |
|--|---|
| <input type="checkbox"/> phone ringing | <input type="checkbox"/> road crossing beeps |
| <input type="checkbox"/> footsteps | <input type="checkbox"/> knocking at the door |
| <input type="checkbox"/> tap dripping | <input type="checkbox"/> clock ticking |

Continuous sounds

- | | |
|--|---|
| <input type="checkbox"/> fridge motor | <input type="checkbox"/> vacuum cleaner |
| <input type="checkbox"/> rain on roof | <input type="checkbox"/> waves at the beach |
| <input type="checkbox"/> shopping centre | <input type="checkbox"/> clothes dryer |

Exercise

Very soft sounds

- | | |
|--|---|
| <input type="checkbox"/> own breathing | <input type="checkbox"/> ice cubes melting |
| <input type="checkbox"/> chopping apples or onions | <input type="checkbox"/> rustling of tissue paper |
| <input type="checkbox"/> pet drinking from a bowl | <input type="checkbox"/> cat purring |
| <input type="checkbox"/> gas escaping from a drink can | <input type="checkbox"/> scissors opening and closing |
| <input type="checkbox"/> spray from perfume or deodorant container | <input type="checkbox"/> shuffling a pack of cards |

Distant sounds

- | | |
|---|--|
| <input type="checkbox"/> traffic in distance | <input type="checkbox"/> waves at the beach |
| <input type="checkbox"/> neighbour coming and going | <input type="checkbox"/> children at a playground |
| <input type="checkbox"/> car coming down the road | <input type="checkbox"/> aeroplane flying overhead |

Louder sounds

- | | |
|---|--|
| <input type="checkbox"/> cutlery being placed in drawer | <input type="checkbox"/> running water into the sink |
| <input type="checkbox"/> toilet flushing | <input type="checkbox"/> own chewing |
| <input type="checkbox"/> cup on bench | <input type="checkbox"/> motor bike passing by |
| <input type="checkbox"/> dog barking | <input type="checkbox"/> stirring a cup of liquid with a spoon |
| <input type="checkbox"/> plastic bags or packaging | <input type="checkbox"/> jangling keys |
| <input type="checkbox"/> traffic | |

List some sounds you heard in the first week with your cochlear implant that you had forgotten

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



Module 2

Identifying speech sounds (vowels and consonants)

Why?

Using your cochlear implant throughout the day gives you lots of practice and helps your brain learn to recognise speech. However, some speech sounds may remain difficult to tell apart and identify with the new and different sound heard through the implant. Recent research indicates that it may be helpful to do exercises to train the brain to learn to tell apart and identify speech sounds. This training involves actively listening to pairs of words that differ in one particular speech sound (for example, the middle vowel “ee” in “theme” vs “u” in “thumb”) and learning to tell the sounds apart. Some types of vowels and consonants are harder to hear with a cochlear implant than others. Therefore, there is a range of exercises progressing from easier to more difficult.

How?

The speaker will say the two words, pointing to each, and then repeat one of the words. You then point to or say the word. If you are unable to work out which word was said, the speaker will then say the pair of words several times, pointing to the word as they say it. This will help to train you to hear the differences between the sounds.

Vowel identification – Level 1*

Exercise 1		
1	theme	thumb
2	sharp	ship
3	teach	touch
4	barn	bin
5	leak	luck
6	carp	cup
7	port	put
8	peep	pip
9	mast	must
10	wall	wool

* Adapted from Plant, G. (1984). Commtram: A communication training program for profoundly deaf adults. Sydney: National Acoustics Laboratories.

Vowel identification – Level 2*

Exercise 2		
1	bath	booth
2	spark	speak
3	tar	too
4	parch	peach
5	tart	toot
6	fast	feast
7	hard	who'd
8	barn	bean
9	bars	booze
10	park	peak

Exercise 3		
1	tea	too
2	pit	put
3	cap	cup
4	pit	pet
5	beat	boot
6	kid	could
7	bat	but
8	bid	bed
9	bid	food
10	pill	pull

Consonant identification – Level 2*

Exercise 5		
1	pea	me
2	pop	mop
3	pie	my
4	peel	meal
5	pet	met
6	pen	pet
7	seen	seat
8	ban	bat
9	bean	beet
10	mean	meet

Exercise 6		
1	match	batch
2	man	ban
3	morn	born
4	mail	bail
5	me	be
6	hen	head
7	moon	mood
8	bun	bud
9	pan	pad
10	corn	cord

Consonant identification – Level 1*

Exercise 4		
1	rip	rib
2	cap	cab
3	mop	mob
4	pick	pig
5	duck	dug
6	lack	lag
7	lock	log
8	cod	cot
9	card	cart
10	hard	heart

Exercise 7		
1	sum	numb
2	sea	knee
3	sap	nap
4	sit	knit
5	seed	need
6	moose	moon
7	horse	hor
8	mass	man
9	case	cane
10	dice	dine

* Adapted from Plant, G. (1984). Commtram: A communication training program for profoundly deaf adults. Sydney: National Acoustics Laboratories.

Consonant identification – Level 3*

Exercise 8		
1	lip	nip
2	law	nor
3	lap	nap
4	lit	knit
5	let	net
6	mean	meal
7	fine	file
8	coin	coil
9	spin	spill
10	skin	skill

Exercise 9		
1	chew	shoe
2	chin	shin
3	chip	ship
4	chewed	shoed
5	chore	shore
6	cheer	shear
7	chose	shows
8	chop	shop
9	cheers	shears
10	chair	share

Consonant identification – Level 4*

Exercise 10		
1	boat	goat
2	bub	dub
3	big	dig
4	dad	gad
5	bet	get
6	lab	lad
7	bag	bad
8	big	bib
9	bust	dust
10	wed	web

Exercise 11		
1	peer	tier
2	peak	teak
3	pour	tore
4	pair	care
5	tool	cool
6	hop	hot
7	bat	back
8	map	mat
9	cape	cake
10	lip	lit

Exercise 12		
1	fought	short
2	fine	sign
3	few	shoe
4	lass	lash
5	fell	shell
6	fit	sit
7	sam	sham
8	frill	shrill
9	buff	bus
10	fail	shale

Exercise 13		
1	mail	nail
2	mine	nine
3	sum	sun
4	gum	gun
5	meet	neat
6	boom	boon
7	more	gnaw
8	game	gain
9	lime	line
10	beam	been

* Adapted from Plant, G. (1984). Commtram: A communication training program for profoundly deaf adults. Sydney: National Acoustics Laboratories.



Module 3

Recognising words (known topics)

Why?

To gain practice in recognising words when you know what the topic is.

How?

You do not see the list of words. The speaker tells you the topic and you repeat the topic. The speaker then says each of the words and you repeat them. If you cannot repeat the word after three attempts, the speaker will say the word with lip reading and then with hearing alone. You can also try having the words in front of you if you are having difficulty initially.

Exercise 1	
1	tiger
2	snake
3	kangaroo
4	dog
5	chimpanzee
6	bear
7	elephant
8	spider
9	cat
10	hippopotamus

Exercise 2	
1	September
2	March
3	July
4	February
5	October
6	April
7	August
8	June
9	December
10	May

You can also make up your own sets of topics and words. Here are some ideas: colours, vehicles, foods, bicycle parts, days of the week. Fill in the topics and associated words in the tables at the end of the manual (Appendix 1).

Module 4

Recognising sentences (known topics)

Why?

To gain practice in recognising speech when you know what the topic is but you don't know what the possible sentences are.

How?

You do not see the sentences. The speaker tells you the topic and you repeat the topic. The speaker says the first sentence and you repeat the sentence. The speaker confirms which words you got right and encourages you to use strategies to clarify the sentence, such as "repeat" or "did you say...?" or "can you say it a different way?" If you have not been able to repeat the sentence after three attempts, the speaker will provide an important word in the sentence using lip reading cues, then repeat the entire sentence using hearing alone.

If you are unable to repeat the sentence, the speaker will say the sentence with lip reading cues and then hearing alone once more. Another option if you are having difficulties is to put the list in front of you so you can see what the options are.

You can also make up your own topics and sentences. Here are some ideas: at the post office, your last holiday, your favourite hobby, going to the beach. Fill in the topics and sentences in the tables at the end of the manual (Appendix 1).

Exercise 1*	
1	How would you like your steak cooked?
2	You have a choice of soup or salad.
3	Good evening. May I take your order?
4	Would you care to dine at this restaurant again?
5	Would you like to use a credit card or pay cash?
6	Thank you. Do come again.
7	Would you like a table for two?
8	Is there anything else I can get for you?
9	You have potato on your chin.
10	Would you like pie, cake or ice cream for dessert?

Exercise 2*	
1	Do you have an account at this branch?
2	Would you like to open a new account?
3	The teller at window number one will help you.
4	Is this a deposit or a withdrawal?
5	You forgot to sign this cheque.
6	This cheque has not been cleared.
7	Would you like to order a statement?
8	Your account is overdrawn.



* Pedley, K. Synthetic training. In: Pedley, K., Lind, C., & Hunt, P. (2005) Adult Aural Rehabilitation: A guide for cochlear implant professionals. Sydney: Cochlear Ltd. Based on concept of Plant, G. (1984). Commtram: A communication training program for profoundly deaf adults. Sydney: National Acoustics Laboratories.

Module 6

Text following – passages read aloud

Why?

A good way to learn to hear the rhythm and pattern of sentences and individual words and then to identify the speech is to listen to text being read aloud. You can do this by listening to someone reading aloud from a passage, or by listening to an audiobook (see next section) and following along with the text on the printed copy.

How?

Choose a passage from a book, newspaper, magazine or one of the passages on the following pages. You will need two copies of the passage – one for yourself and one for your training partner. The speaker will read the passage aloud. You follow along pointing to each word as it is spoken. The speaker then stops at a random place and you stop at the same word. If you don't stop at the correct word, the speaker will show you.

Some handy tips

- When you start this task, practise in a quiet room using materials that are easy to follow (for example, reading from children's books, or passages where content is easy to follow and you know the topic).
- The speaker should start by speaking slowly and stopping in places that are predictable, such as at the end of sentences or phrases. Passages can be read several times for practice.
- As you gain more experience with this task, you can use more difficult materials with longer sentences and where you are not familiar with the topic.
- When you start to find the task easier, listen in a room with background noise. To do this you can turn on a fan, or turn on the radio "off station" with static noise in the background, or to a station with music or talking, increasing the volume of the noise as you progress.
- You can also practise listening by reading aloud to yourself.



Exercise

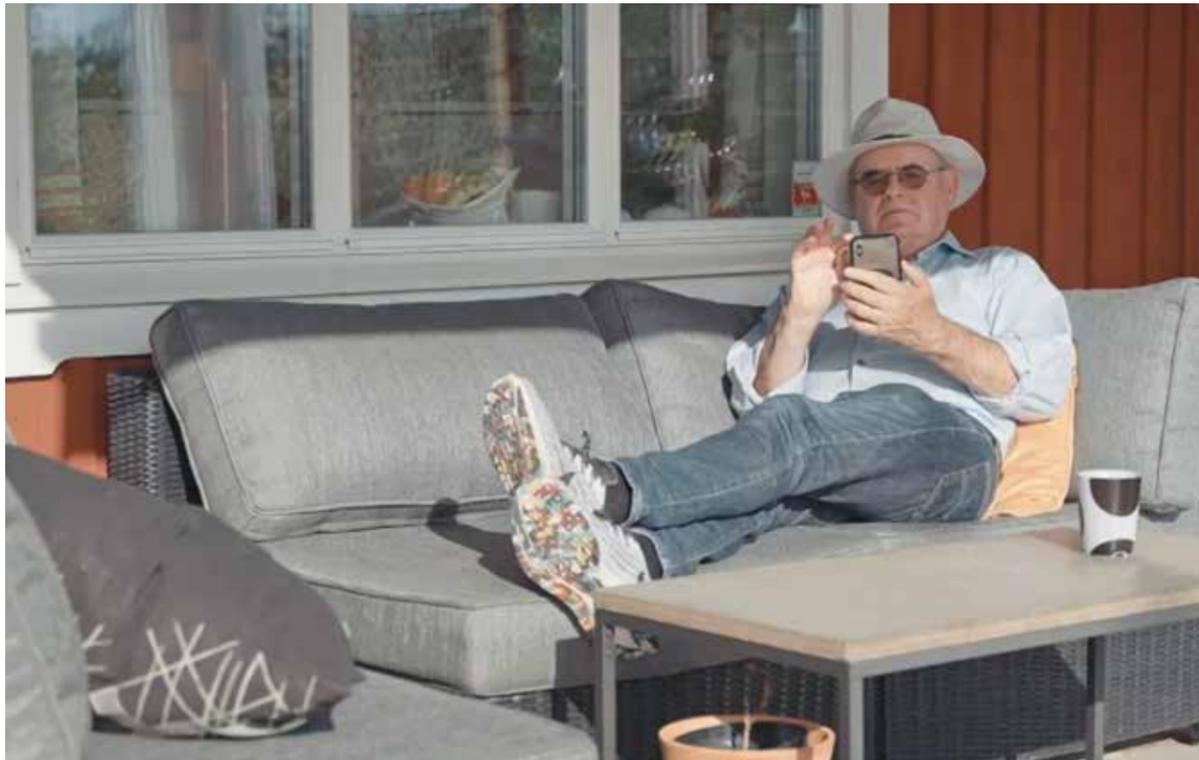
Australia

The continent of Australia is about 7000 miles southwest of California. It is both a continent and an island and is almost exactly the same size as the mainland United States. The Nullarbor is the second largest desert in the world and means "no trees" in Latin. Because of this huge desert, most of the population live around the coastal borders. There are seven states, including the island of Tasmania.

One of the most interesting features of this country is the animals. The most well-known is the koala bear, of course. In fact, the koala is not really a bear, because it has a pouch in which it carries its young. The koala lives in a special kind of eucalyptus tree, because the koala will eat only the leaves from this tree.

Another animal is the wallaby. This is a miniature kangaroo. It has very big eyes and very long claws and is more friendly than a kangaroo. There are several kinds of kangaroos: grey ones, red ones and brown ones. They have very large hind feet and a long tapered tail that make it possible for them to leap great distances. They can move faster than fifty miles per hour. In the north of Australia, kangaroos can be found in the wild very easily. However, wild Australian animals are not usually found wandering the streets of any major city.

There are many other interesting things in this land called "Down Under". There are many other interesting things in this land called "Down Under".



Audiobooks (recorded books)

Why?

A good way to learn to hear the rhythm and pattern of sentences and individual words and then to identify the speech is to listen to text being read aloud. You can do this by listening to someone reading aloud from a passage (see section above) or by listening to an audiobook and following along with the text on the printed copy.

How?

Listen to the audiobook and at the same time follow along on the text in the written book. Listen to the patterns in the speech and try to identify what the words are. If you find it difficult at first, you can repeat the passage several times to practice.

Some handy tips

- It's a good idea to start with the clearest and quietest signal possible.
- It's a good idea to start with easier books and build up to harder books as you get more practise. Starting with children's books may be easier. Then as you get more practise, listen to books for adults, starting with topics that you are familiar with and are of interest to you – perhaps a book you have read before and enjoyed.
- Some talkers are easier to hear than others, so it can be helpful to experiment with this.
- You can make the task more difficult by listening to the audiobook alone without reading along.

Text to speech (TTS)

Why?

Text-to-speech (TTS) is a technology that analyses written text, using synthetic voices and other speech synthesis techniques to generate spoken output that can be heard through a speaker or streamed into a sound processor.

The system analyses the input text to determine appropriate pronunciation, intonation, and pacing for words and phrases. These rules are then utilized to generate the spoken output

We suggest using this technology to create your own auditory training exercises, such as word lists, phrases, texts, etc. These activities do not replace listening and conversation activities with your professional or partner, but they can be a good alternative in moments when you do not have assistance or simply for self-training.

How?

Connect your smartphone or tablet to your Sound processor device using direct streaming or another wireless connectivity option.

Once connected, you should be able to stream audio content from your smartphone, PC or tablet to your Sound processor. This will allow you to listen to books, text, pdf's, emails or other content using the text-to-speech technology.

1. Enable text-to-speech on your iOS device, by following these steps:

- Open the Settings app on your iOS device.
- Scroll down and tap on "Accessibility".
- Tap on "Spoken Content" under the "Vision" section.
- Turn on the "Speak Selection" and "speak screen" toggle.
- Adjust the speaking rate to your preference by dragging the slider to the left or right.
- To have the device read selected text aloud, highlight the text you want to hear and tap the "Speak" button that appears.
- To have the device read the entire screen aloud, turn on the "Speak Screen" toggle. Then swipe down with two fingers from the top of the screen to start the speech.
- Additionally, you can choose a voice and language for the text-to-speech by tapping on "Voices" and selecting the desired language and voice. This will allow you to customize the sound of the spoken text to your preference.

2. Enable text-to-speech on your Android device, by following these steps:

- Open the Settings app on your Android device.
- Scroll down and tap on "Accessibility".
- Tap on "Text-to-speech output" under the "Services" section.
- Tap on "Preferred Engine" and select the text-to-speech engine that you want to use. Google Text-to-speech is the default engine for most Android devices.
- Tap on "Install voice data" to download additional voices for the selected engine.
- To enable text-to-speech, turn on the "Use speech synthesis" toggle.
- Adjust the speech rate to your preference by dragging the slider to the left or right.
- To have the device read selected text aloud, highlight the text you want to hear and tap the "Speak" button that appears.
- To have the device read the entire screen aloud, turn on the "Select to Speak" toggle. Then tap on any text to start the speech.
- Additionally, you can choose a language and voice for the text-to-speech by tapping on "Language" and selecting the desired language and voice. This will allow you to customize the sound of the spoken text to your preference.

It's important to note that the exact steps and options for setting up text-to-speech on an Android device may vary depending on the device model and version of Android being used. However, the general process is similar across most Android devices.

Some handy tips

You can start by building lists of simple words, closed lists, to become familiar with TTS, short sentences and texts. Pay attention to punctuation marks, period, semicolon, question or exclamation marks, as TTS sometimes does not emphasize pauses or correct intonation sufficiently. For example, in a list of words, headed by numbers e.g. 1. boat, 2. goat. the system could read: one boat, two goat.

Try different speakers, it's important to start with those that you feel most comfortable with, male or female speakers, you have different options and adjust the speed. You can also repeat as many times as you need.

There are also some applications that directly convert any text to speech, upload documents such as PDF, Word, and others. This way, you can turn any reading activity into an auditory training activity.

If you don't use a smartphone or prefer to carry out these activities from your laptop or desktop computer, we recommend using any text-to-speech conversion applications or checking the accessibility of the websites you visit, on many of them, you will find an icon that will make it easier for you to listen to the written text.

It's important to note that the specific approach to using text to speech for auditory training with cochlear implant users may vary depending on the individual's needs and abilities. It may be helpful to work with a speech and language therapist or audiologist to develop an effective training program.



Smart speakers

A smart speaker is a type of electronic device that can listen to your voice and do things for you. It usually looks like a small box with a speaker inside. You can talk to it and give it commands, like asking it to play music, tell you the weather forecast, or turn on the lights in your room.

Smart speakers work using voice recognition technology. This means that the device can understand your voice and know what you want it to do. They are also usually connected to the internet, so they can access information from websites and other online sources.

Why?

Smart speakers can be a great tool for auditory training with your cochlear implant. Here are some general steps for using smart speakers in this way:

- Choose appropriate content: Select content that is appropriate for auditory training, such as weather forecast, listen shopping list or any word list you can create, ask for a joke a quote, the possibilities are huge.
- Adjust settings: Adjust the settings on the smart speaker to optimize the sound quality for the cochlear implant user. This may include adjusting the volume, equalizer settings, or other audio preferences.
- You can also ask a smart speaker to speak more slowly if you find that the device is speaking too quickly for you to understand. For example, with Google Assistant, you can say "Hey Google, speak slower" or "Hey Google, can you slow down?" to adjust the device's speaking speed. Most smart speakers have a variety of voice commands that you can use to interact with them. For example, with Amazon's Alexa, you can say "Alexa, repeat that" or "Alexa, can you say that again?" to ask the device to repeat what it just said.

- It's a good idea to check the user manual or online guides for your specific smart speaker to learn more about the available voice commands and how to adjust the speaking speed. But in general, most smart speakers are designed to be responsive to your voice commands and can adjust their behaviour based on your needs.
- Gradually increase difficulty: Over time, gradually increase the difficulty of the content to challenge and improve your auditory skills. In addition, you can try decreasing volume or increase the distance from the smart speaker.

How?

Interacting with a smart speaker is usually pretty simple! Here are some basic steps to follow:

- Wake up the smart speaker: Most smart speakers have a wake word or phrase that you need to say to get the device's attention. For example, with Amazon's Alexa, you would say "Alexa" to wake it up.
- Give a command: Once the smart speaker is awake, you can give it a command or ask it a question. For example, you could say "Play some music" or "What's the weather like today?"
- Wait for a response: The smart speaker will listen to your command or question and then give you a response. This could be playing music, answering your question, or telling you a joke.
- Repeat or end interaction: If you have another command or question, you can repeat the process by saying the wake word again. If you're done interacting with the smart speaker, you can usually say something like "Thank you" or "Goodbye" to end the conversation.

- It's important to note that the specific approach to using smart speakers for auditory training with cochlear implant users may vary depending on the individual's needs and abilities. It may be helpful to work with a speech and language therapist or audiologist to develop an effective training program.

Some handy tips

Think about the activities in which you could involve your smart speaker, such as asking for general information, requesting a recipe for a dish you want to cook, exercising, for example, a yoga session, meditating.

Prepare word lists through your smart speaker app is the same as making a shopping list. This way, you can create closed-format word or phrase lists when appropriate and ask your smart speaker to read at your convenience, remember, ask for repetition, decrease or increase volume or adjust speed rate.

Our smart speaker can be fun, too! As a partner in your auditory training, you can ask it for a joke, try to remember it, and share it with your family and friends, some jokes are very witty, others are very silly, but fun is guaranteed. You can also ask it for riddles and tongue twisters.

Do you usually play family games? Family games can be particularly important for Cochlear implant recipients, as they can provide a fun and engaging way to practice listening and communication skills.

You can try playing with your family and friends together with your smart speaker as provide a safe and supportive environment for practicing these skills, as the speaker can repeat words or phrases and adjust the level of difficulty as needed. Additionally, playing games as a family can be a bonding experience and help to strengthen relationships.

By playing games with a smart speaker, you'll gain confidence in the ability to interact with technology and communicate effectively in various settings. This can be particularly important in social situations, where you may need to rely on technology to communicate with others.

Overall, family games played with a smart speaker can be a valuable tool for your Auditory training practice, providing a fun and engaging way to practice and improve listening and communication skills, while also strengthening family & friends relationships.



Module 7

Recognising common phrases

Why?

To gain practice in recognising commonly heard phrases.

How?

You do not see the list of sentences. The speaker will say the sentence without lip reading. Try to repeat as many words as you can. If you are not sure, fill in the missing words with your best guess. Remember, these are sentences that you hear every day. The speaker confirms which words you got right and encourages you to use strategies to clarify the sentence, such as “repeat” or “did you say...?” or “can you say it a different way?” If you have not been able to repeat the sentence after three attempts, the speaker will provide a key word in the sentence using lip reading cues, then repeat the entire sentence using hearing alone. If you are still unable to repeat the sentence, the speaker will say the whole sentence with lip reading cues and then hearing alone once more. For further practise you can also try making up your own phrases which are relevant to you.

Exercise	
1	What time is it?
2	I'll see you later!
3	How was your day?
4	Would you like a cup of coffee?
5	Wait just a minute.
6	What's the weather like?
7	Have a nice day.
8	What are we having for dinner?
9	You are looking well today.
10	Do you need a lift?
11	Would you like some help?
12	Please close the door.
13	Are you warm enough?
14	What would you like for breakfast?
15	Happy Birthday!
16	Let's go to the movies.
17	Pass the bread and butter please.



Section B Making it more challenging

Practice repeating and understanding speech in quiet and noisy backgrounds

PART 1 Practising in a quiet background

Well done on reaching the section for practising recognising and repeating speech when the topics and possible options are not known, and for practising understanding the message. This is getting more challenging!

Module 8 Recognising sentences (no topics)

Why?

To practise recognising speech when the topic and possible options are not known.

How?

The speaker says a sentence. You repeat the sentence. The speaker then confirms which words you got right and repeats the sentence two more times if needed. If you are having difficulty, the speaker can try providing a related topic or providing one of the words in the sentence with lip reading cues. If you can't repeat the sentence after three attempts, the speaker will say the sentence with lip reading cues and then again hearing only.



Exercise

- 1 We must vote next Tuesday.
- 2 Press the pedal with your foot.
- 3 Pour the stew into the bowl.
- 4 She saw a cat in the house.
- 5 The sky was clear and bright.
- 6 Take the winding path to the lake.
- 7 Will you please answer the phone?
- 8 The fish swam in the tank.
- 9 The boy missed the boat.
- 10 The house was built of brick.

* Adapted from IEEE sentences. Institute of Electrical and Electronic Engineers (1969) IEEE recommended practice for speech quality measurements. IEEE Transactions on Audio and Electroacoustics, 17: 225-246. New York: IEEE.

Exercise 2 (Level 1)*	
1	Always close the barn door tight.
2	After the dance they went straight home.
3	She was waiting at my front door.
4	Her dress was trimmed with a gold sash.
5	He found a pink shell on the beach.
6	The grapes were pressed into wine.
7	A break in the dam almost caused a flood.
8	The red apple fell to the ground.
9	The corner store was robbed last night.
10	Cut the pie into eight equal portions.

Exercise 3 (Level 2)*	
1	The man went to the woods to gather sticks.
2	Next Sunday is the twelfth of the month.
3	Plant a bush near the front steps.
4	She called his name many times.
5	She sewed the torn coat quite neatly.
6	The sun came up in the eastern sky.
7	The term ended in June that year.
8	Use a pencil to write the first draft.
9	Come quickly when you hear the bell.
10	Wood is best for making toys and blocks.

Exercise 6 (Level 3)*	
1	Canned pears lack full flavour.
2	A dash of pepper spoils beef stew.
3	The grey mare walked before the colt.
4	Boards will warp unless kept dry.
5	The rent was paid every third week.
6	The beetle droned in the hot June sun.
7	Bail the boat to stop it from sinking.
8	The copper bowl shone in the sun's rays.
9	The black dog crawled under the fence.
10	A rod is used to catch pink salmon.

Exercise 4 (Level 2)*	
1	A small creek cuts across the field.
2	Pencils with black lead are good for sketching.
3	Movie tickets cost five dollars on Mondays.
4	The round mat covered the mark on the floor.
5	A frog and a toad are hard to tell apart.
6	The night alarm woke him from a deep sleep.
7	The crew lost their lives in the raging storm.
8	The bomb raid left most of the town in ruins.
9	The curtain rose and the show began.
10	Drive the screw straight into the wood.

Exercise 5 (Level 3)*	
1	Pick a card and place it under the pack.
2	The plant grew large and green in the window.
3	Raise the sail and steer the ship northward.
4	She danced like a swan, tall and graceful.
5	The salt breeze came across the sea.
6	There was the sound of dry leaves outside.
7	Turn on the lantern for light.
8	Twist the valve and release hot steam.
9	Watch the log float in the wide river.
10	We now have a new warehouse for shipping.

* Adapted from IEEE sentences. Institute of Electrical and Electronic Engineers (1969) IEEE recommended practice for speech quality measurements. IEEE Transactions on Audio and Electroacoustics, 17: 225-246. New York: IEEE.

Module 9

Recognising words (no topics)

Why?

To gain practice at recognising speech when the topic and possible options are not known.

How?

The speaker starts by saying the first word. You repeat the word. If you do not get the word completely correct, your speaker can give you tips, such as “nearly; listen to the last letter again”, or “almost right, but this word doesn’t begin with p”. After three attempts, the speaker should then write down the test word and the word that was said and then say them several times, pointing to each in turn. Also, make a note of the error so that your audiologist can give you exercises to work on this.

Exercise 1*			
1	dip	1	shed
2	can	2	chop
3	boot	3	verse
4	cheese	4	notch
5	jug	5	fib

Exercise 2*			
1	jam	1	rough
2	leg	2	talk
3	caught	3	yes
4	can	4	zoom
5	bath	5	pave

Exercise 3*			
1		1	
2		2	
3		3	
4		4	
5		5	

Exercise 4*			
1	fuss	1	them
2	reef	2	latch
3	save	3	nil
4	daze	4	sheep
5	wash	5	sage



* Adapted from Angel Sound.

Module 10

Interactive stories

Why?

To gain practice in understanding the message rather than just repeating what is heard.

Exercise 1 (Level 1)*

Story 1: Breakfast

Breakfast is probably the most important meal of the day. It gives us energy to go through the morning. Most people eat breakfast at about seven o'clock in the morning. I like cereal, toast and juice for breakfast. On Sundays, it's nice to go out to a restaurant for breakfast.

- 1 What was I talking about?
- 2 What time do most people eat breakfast?
- 3 What time do you eat breakfast?
- 4 Do you like eggs for breakfast?
- 5 What do you like best for breakfast?
- 6 Do you ever go to a restaurant for breakfast?

How?

The speaker reads out the paragraph without lip reading (you do not see the paragraph or the topic). The speaker then asks you questions about the paragraph. If you are having difficulty, your speaker could give you the topic clue, or you can start by reading the paragraph with lip reading and then asking the questions with hearing alone.

Exercise 2 (Level 2)**

Story 2: The disappointed cat

One day, a little bird sat in a tree and looked around. He wanted something to eat and saw a piece of bread on the ground. He flew down and began to eat it. An old black cat saw the bird and crept up behind him. She almost caught him, but the little bird heard her and flew back into the tree. The cat was disappointed. She lay down on the steps and went to sleep. Then the little bird flew down again and ate the bread.

- 1 How big was the bird?
- 2 What did the bird see on the ground?
- 3 Did the cat catch the bird?
- 4 What colour was the cat?
- 5 Where did the cat fall asleep?
- 6 Did the bird get to eat the bread?

Exercise 3 (Level 3)*

Story 3: Garlic

The simple bulb of garlic as we know it is certainly nothing special. However, garlic has a long and fascinating past. The Babylonians and ancient Greeks called it the "stinking rose" and believed it had peculiar powers. People rubbed it on their bodies, buried it with their dead, and wore it round their necks.

The Egyptians went so far as to pray to garlic. They maintained that it possessed the secret of physical strength. When garlic supplies ran short for the workers building the Great Pyramid, they reportedly went on strike. Big servings of garlic were also fed to soldiers for strength in battle and to athletes for better performance.

It was also believed that garlic had many therapeutic values. Remedies have been recorded for snakebite, measles, colds and cholera, to name but a few. A more bizarre practice was to string it around the neck to repel vampires.

While garlic is certainly not a cure for all sickness, it is a powerful antiseptic. It has also been used with good results as a pesticide. At the present time, the real value of garlic is in cooking. For some time, though, it was frowned upon as something smelly that only

people from the Mediterranean ate. This view is changing, and no chef, who takes pride in cooking, would be without it.

Since most people worry about bad breath, it should be remembered that this only occurs with raw garlic. It is perfectly safe to eat when cooked. A final reassurance comes from the Japanese, who are presently working on a strain of odourless garlic. This breakthrough should win over many who refrained from eating garlic previously because of fear of bad breath.

- 1 What was garlic called in the time of the Babylonians?
- 2 Name two ways that garlic was used in the past.
- 3 Why were soldiers and athletes fed so much garlic?
- 4 What were the garlic remedies supposed to cure?
- 5 What do we use garlic for in modern times?
- 6 What is in the process of happening to garlic to make it better to eat?

* Pedley, K. Synthetic training. In: Pedley, K., Lind, C., & Hunt, P. (2005) Adult Aural Rehabilitation: A guide for cochlear implant professionals. Sydney: Cochlear Ltd.

** NSW Department of School Studies (1990). Courtesy of the NSW Department of Education and Training.

* Pedley, K. Synthetic training. In: Pedley, K., Lind, C., & Hunt, P. (2005) Adult Aural Rehabilitation: A guide for cochlear implant professionals. Sydney: Cochlear Ltd.

Module 11

Information transfer – complete the missing information*

Why?

To gain practice in understanding the message rather than just repeating what is heard.

How?

The speaker's copy of the exercise is below and your copy is in Appendix 1. You and the speaker both have the same table, but you each have different and complementary missing details. The task is to fill in the missing information on both of your sheets by taking it in turns to ask and answer questions. For example, you may ask the recipient: "What street is the house on?" The recipient may ask you: "Is the condition of the flat modern, quite modern or not very modern?" When the recipient hesitates, encourage them to request clarification.

Exercise

Street	King Street	
Size	big quite big small	big quite big ✓ small
Condition	modern quite modern ✓ not very modern	modern quite modern not very modern
Number of rooms	three	downstairs – upstairs –
List of rooms	a living room a kitchen a bedroom	
Central heating	Yes	
Near the shops		No
Distance from town centre	1km	
Rent		\$1600 a month
Any other information	You share the toilet and bathroom on the first floor.	

* Watcyn-Jones, P. & Howard-Williams, D. (2001). Grammar games and activities, Book 1. London: Penguin, Reproduced by permission of Penguin Books Ltd.

Module 12

Information transfer – describe, perceive, draw*

Why?

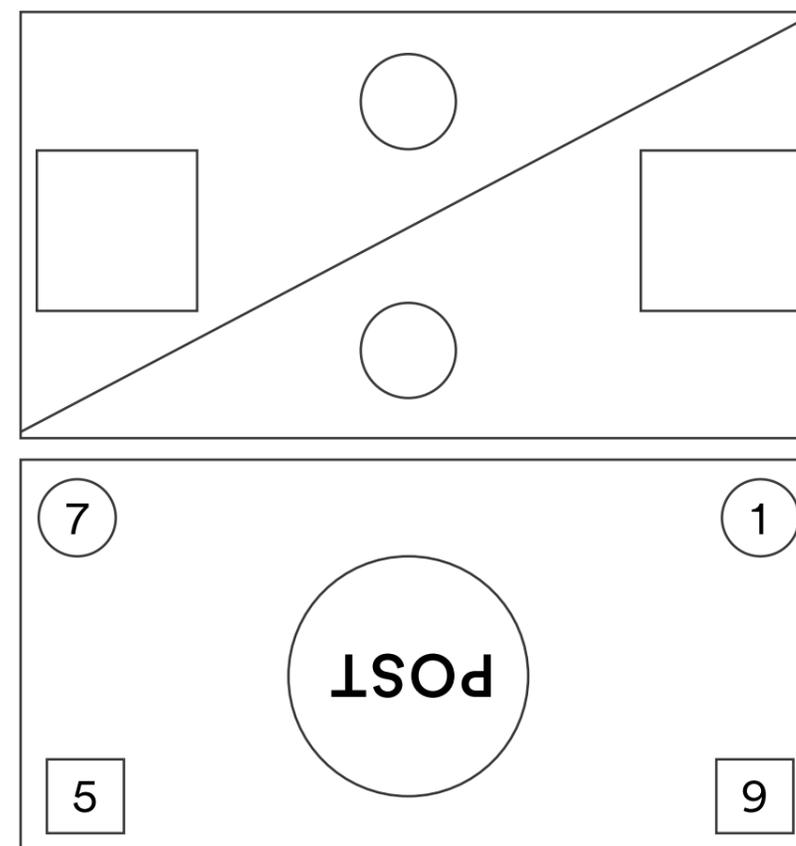
To gain practice in understanding the message rather than just repeating what is heard.

How?

The speaker gives you a set of verbal instructions to draw or write objects and symbols on a blank rectangle (see Appendix 1) to form a pattern. Example patterns for the speaker are shown below. You carry out the instructions, using clarification strategies whenever you are unsure of any details. Once you have completed the exercise, the speaker will show you the correct pattern and discuss any errors.

The following presentation tips may be useful for the speaker:

- Use a number of short sentences initially, building up to longer, more detailed instructions when the recipient is achieving the task.
- If the recipient is reluctant to ask for clarification, encourage them to repeat or paraphrase each instruction to ensure it has been correctly perceived.
- Do not automatically repeat the instruction if the recipient hesitates. Wait for them to question details so they begin to take responsibility for repairing the communication breakdown.



* Adapted from Plant, G. (1991). Syntrex: Synthetic training exercises for hearing impaired adults, Part 1 Therapist's Handbook. Sydney: National Acoustics Laboratories.

Module 13

Role Play*

Why?

To gain practice in understanding the message rather than just repeating what is heard.

How?

You will pretend to be in a specific place with a task to achieve. Your speaker will give you basic information about the conversation context and purpose, and an introductory sentence with lip reading. Your speaker will then ask you questions related to the situation without lip reading. To play your part, try to give appropriate answers. If needed, ask your conversation partner to repeat the question, or use prompts such as "Did you say...?" or "Are you asking...?"

Exercise 1

Situation: Purchasing a train ticket at the ticket office

- 1 Where would you like to go?
- 2 When would you like to go?
- 3 What time of the day would you like to travel?
- 4 How many people will be travelling with you?
- 5 Would you like a one-way or a return ticket?
- 6 Will you be returning on the same day?
- 7 How would you like to pay for the ticket?

Exercise 2

Situation: Obtaining a replacement cable for a speech processor

- 1 Was your speech processor fitted at this clinic?
- 2 What model is your speech processor?
- 3 Would you like the cable posted to you?
- 4 How long have you had this speech processor?
- 5 What length of cable would you like, 6 cm or 8 cm?
- 6 What colour would you prefer: beige, brown, grey or black?
- 7 Do you need any other spare parts?

* Pedley, K. Synthetic training. In Pedley et al. (2005) Adult Aural Rehabilitation Guide.





Module 14

Scripted conversation

Why?

To gain practice using prediction and topic cues to anticipate what your speaking partner is saying.

How?

You will start the conversation about the preparation for an imaginary trip you will both take for a picnic. Below are the sentences and questions that you will say. Your speaking partner will make the appropriate responses. Try to repeat back what your partner says before moving on to the next sentence.

Note to your speaker: Encourage the recipient to guess. If the recipient cannot correctly repeat the information, provide assistance as follows:

- Repeat the whole answer.
- Repeat the answer emphasising the incorrect part.
- Repeat only the incorrect part.
- Confirm the parts correctly repeated.

Adjust the predictability and complexity of your replies to suit the skill level of the recipient (for example, embed the answer, use proper nouns) so the exercise remains challenging but manageable.

Exercise

Topic: Organising a picnic

- 1 Let's go for a picnic. Where shall we go?
- 2 Who should we invite along?
- 3 Which day will we go?
- 4 Whose car shall we take?
- 5 How long do you think it will take to get there?
- 6 What food should we take?
- 7 What other activities shall we do at the picnic site?
- 8 What shall we do if it rains?
- 9 How long shall we stay there?
- 10 Do you want to take anything else with you?

Module 15

Questions*

Why?

To gain practice in understanding the message rather than just repeating what is heard.

How?

Your speaker (conversation partner) will decide on a topic to discuss (see topic examples below). You and your conversation partner

can both see the list of questions (see page 66 for copy of questions). You ask each question, and your conversation partner will answer. The conversation partner asks the recipient to repeat what they have understood of the response. Encourage the recipient to request clarification, and for the recipient and conversation partner to work together to clarify what was said.

Topic examples:

museum	restaurant	post office	shopping	camping
doctor	zoo	beach	airport	swimming
mountains	picnic	music	lesson	supermarket

* Adapted from Erber, N. (1996). Communication therapy for adults with sensory hearing loss (2nd ed). Clifton Hill: Clavis.

Exercise

- 1 Where did you go?
- 2 Why did you go there?
- 3 When did you go?
- 4 How many people went with you?
- 5 Who were they? (give names)
- 6 What did you take with you?
- 7 Where is (the place that you went)?
- 8 How did you get there?
- 9 What did you see on the way?
- 10 What time did you get there?
- 11 What did you do first?
- 12 What did you see?
- 13 How many? What colour?
- 14 What happened at (the place where you went)?
- 15 What else did you do?
- 16 What were the other people doing at (the place where you went)?
- 17 What was the most interesting thing that you saw?
- 18 What was the most interesting thing that you did?
- 19 What did you buy?
- 20 What kind? What flavour? What colour?
- 21 How much did it cost?
- 22 Did anything unusual happen? What?
- 23 How long did you stay?
- 24 What did you do just before you came home?
- 25 When did you leave?
- 26 How did you get home?
- 27 What happened on the way home?
- 28 What time did you get home?
- 29 How did you feel then?
- 30 When are you going back?
- 31 Do you think that I should go sometime? Why?



PART 2 Practising in background noise

Learning to deal with background noise

Why?

Auditory training in background noise helps recipients improve their ability to understand speech in noisy environments.

During auditory training in background noise activities, you're going to be exposed to speech signals that are presented along with background noise. The goal of the training is to help you to learn to selectively attend to the speech signal and filter out the background noise. The training typically involves various exercises and tasks that gradually increase in difficulty and complexity.

One common approach to auditory training in background noise is to use computer-based training programs. These programs may present speech signals and background noise through loudspeakers, and the recipient may be asked to identify and repeat words or sentences in the presence of increasing levels of background noise. Other approaches may involve group sessions or one-on-one training with a professional.

Research has shown that auditory training in background noise can be effective in improving speech recognition in noise for CI users. Additionally, this type of training may also improve other aspects of communication, such as listening effort and communication confidence.

How?

Well done on reaching the section for practising in background noise. Now it's getting quite challenging. Many of the everyday environments in which we communicate are noisy. The noise may be steady such as an air conditioner or fan or may be loud and variable such as traffic noise, and often it is a background of other people talking or of music. As you know, it is much more difficult to communicate in a noisy background.

So, when you are well practised at recognising speech in quiet, it is important to practise listening in noisy backgrounds.

You can start with low levels of noise and increase the noise level as you progress. This practice will help your brain sort out the message you want to hear from the noise and help you learn to fill in the gaps when you don't hear all the message. Below are the instructions for how to practise in background noise.

- Watch TV or listen to music: Start by having a conversation with a low level of background noise, and gradually increase the level of background noise over time.
- Play listening games: There are many listening games that can be played at home in background noise. For example, you can play a game where you listen to a spoken word or sentence and try to repeat it back accurately, in the presence of background noise (TV on, music in the background).

- Use a partner or family member: Practice listening to speech in background noise with a partner or family member. Have them speak to you from another room, or while there is background noise, and try to understand what they are saying. Gradually increase the level of background noise over time.
- If you're looking for specific recorded background noise scenes, like restaurant, office, school, noisy streets, etc. there are a few different options you can take depending on your specific needs:

Online sound libraries: There are many online sound libraries that offer recordings of various background noise scenes. Some popular options include Soundsnap, Freesound, and the BBC Sound Effects library.

YouTube ambience scenes: You can use the YouTube search engine to find different recordings of sound environments. Look for the one that best suits your needs, such as an office sound ambience, a shopping centre sound ambience, or a crowded street. There are many options available, some with a duration of one hour or more, which will allow you to have conversations or engage in various auditory training activities.

In any room at your home, it is possible to simulate any sound environment using smart TV, desktop computer, laptop, or smartphone to play videos or applications with sound environments.

Dealing with background noise in real life

Why?

Cochlear implants are designed to provide access to sound, but in noisy environments, speech signals can become masked or distorted by other sounds, making it difficult to understand what is being said.

Once you have practiced the proposed activities with background noise, you will be ready to put your skills into practice in real life. It's time to move forward, choose the appropriate place, a café, a park, at work or study environment.

It's important to know the available technologies for different challenging listening situations. Below we explain some of them and provide links to YouTube videos for demos or more detailed information.

Wireless Accessories

Cochlear offers a range of wireless accessories that can help improve the listening experience in noisy environments. For example, the Mini Microphone 2+ can be worn by a conversation partner to stream their voice directly to the user's sound processor, making it easier to understand speech in noise.

Pair your Nucleus 8 sound processor with the Cochlear™ Wireless Mini Microphone

<https://youtu.be/xxlrjyoQ8Xw>

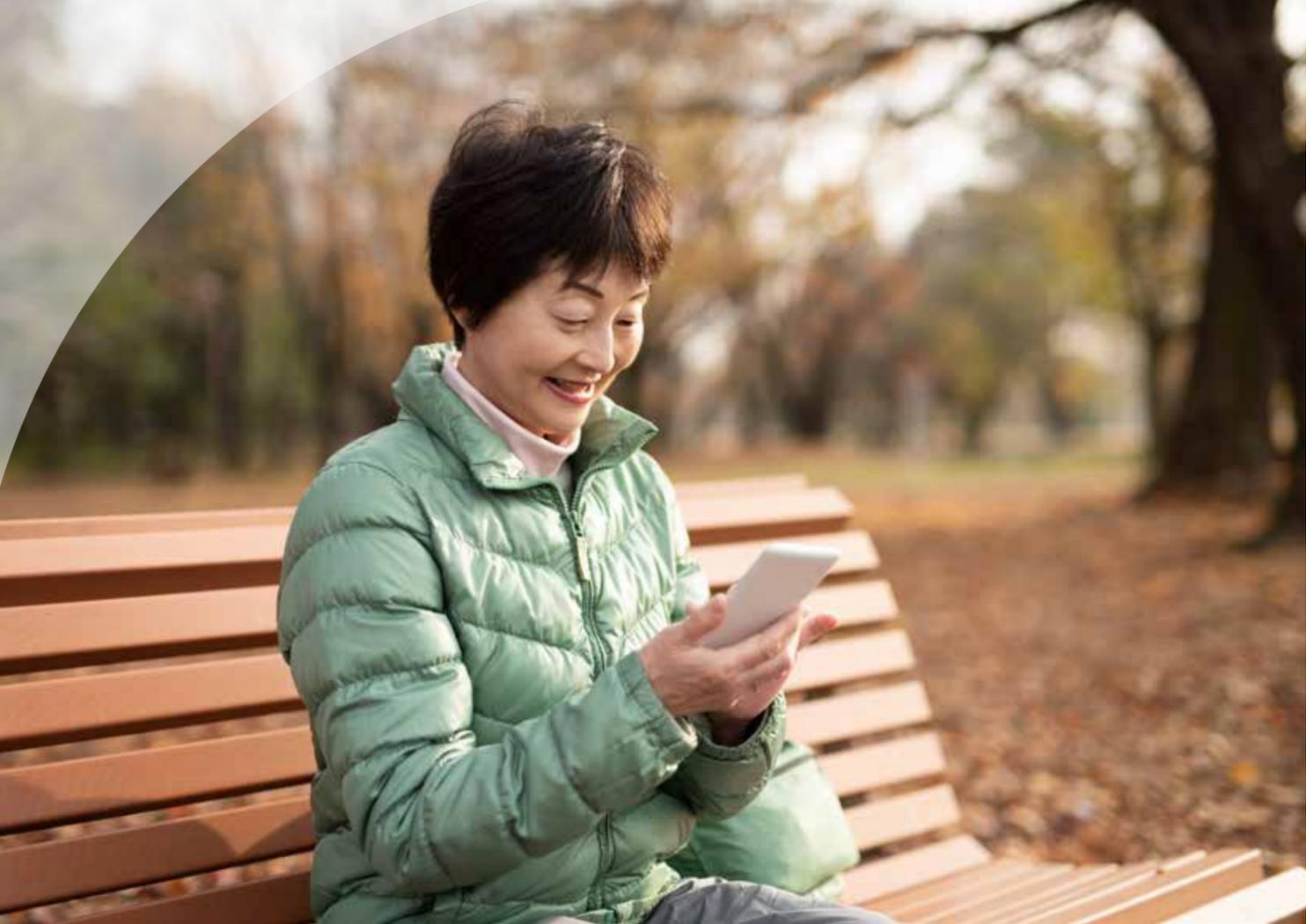
Pair your Nucleus 7 or Cochlear Kanso® 2 Sound Processor with a Cochlear™ Wireless Mini Microphone

<https://youtu.be/08KhtVvUVjs>

Some handy tips

- **Position yourself facing the speaker:** When listening in noisy environments, try to position yourself in a way that your implant's microphone is facing the speaker. This can help reduce background noise and improve the clarity of the speaker's voice.
- **Use noise-cancelling features (check Cochlear technology features):** Be sure to familiarize yourself with these features and use them when necessary.
- **Use visual cues:** Visual cues, such as lip-reading or facial expressions, can help supplement auditory information and improve communication in noisy environments.
- **Ask for repetition or clarification:** Don't be afraid to ask the speaker to repeat or clarify what they said. This can help ensure that you understand the message correctly.
- **Practice listening in noise:** Regularly practicing listening in noisy environments can help improve your ability to filter out background noise and focus on the speaker's voice.
- **Use assistive listening devices:** There are various assistive listening devices, such as Minimic 2+ (Remote microphone) or loop systems, that can help improve communication in noisy environments. Consult with your audiologist to determine if these devices could benefit you.
- **Take breaks:** Listening in noisy environments can be mentally exhausting. Be sure to take breaks when necessary to give your brain a rest.





PART 3 Practising on the telephone

In an increasingly digitally connected world, the way we interact with each other has evolved over time. The move toward using online meeting and video calls to communicate, may require you to familiarise yourself with new online platforms.

The good news is that this mode of communication, along with text messaging and the wider availability of closed captioning during online calls is helping to make communication more accessible and inclusive for people with hearing loss.

Practical advice for phone and video calls

Taking the time to work on your conversational confidence over the phone and on video calls is a big commitment. We want you to feel supported and set up for success. So, we have some practical tips for you to consider before starting the listening exercises.

- We encourage you to wear your sound processor as much as possible. It's also important to follow the guidance of your hearing healthcare team and continue to do listening and rehab exercises regularly.
- Check phone compatibility There are many mobile phone options on the market. If you elect to get a new mobile phone, we recommend checking that your new device is compatible with your sound processor.
- Direct audio streaming from your mobile phone to the sound processor can help to optimise speech clarity on phone calls. If your sound processor technology permits, we recommend directly streaming phone and video audio using a compatible* Apple™ or Android™ device. For information regarding the compatibility of Cochlear's Sound Processors with Apple or Android devices, visit www.cochlear.com/compatibility If your current mobile phone or sound processor technology does not allow for direct streaming, this can be achieved using the Mini Microphone 2+ or Phone Clip. Visit the Device Support page on www.cochlear.com or refer to your user manual for instructions on how to use these accessories with your sound processor. Speak to your hearing healthcare professional We recommend speaking to your hearing healthcare professional about how to optimise the settings on your sound processor.
- Put clear communication into practice When you are talking to others on the phone or on video calls, remind others to use good phone technique and speak clearly. For example, you can ask your conversational partners to speak directly into the mouthpiece and speak naturally at a moderate speed. If you are continuing to have trouble hearing on the phone, try asking your conversational partner to re-phrase the sentence instead of repeating it. Or, if your listening is at a level that makes it harder for you to understand a phone signal, don't be afraid to arrange video calls. You may find the visual cues provided through video calls more beneficial.
- Consider background noise During phone calls and video calls, remember to consider your environment. Background noise can make it harder to hear speech. If your conversational partner is calling from a busy café or using handsfree whilst in the car, it may be harder for you to hear what they are saying. Don't be afraid to explain that background noise makes it harder for you to hear and ask your conversational partner to call you back when they are in a quieter environment. If you are on a video call, remind conversational partners to face the camera when speaking and to choose a quiet location with good lighting so you can see their face during the call.
- Use captions You can consider using live captioning on video conferencing apps or subtitles which inbuilt into some browsers and apps.

Rehab exercises for phone and online calls

Below are some simple exercises that you can follow to help make you feel more comfortable communicating with others over the phone and on online calls.

Develop a rehab plan

Before you get started on your phone rehab journey, speak to your audiologist or clinician. They will help determine the best rehab plan for you. The steps below are just ideas on how to get started.

Practise with a familiar speaker

When you first get started with phone rehab, begin by practising at home with a family member or someone that lives with you. Their voice will be most familiar to you and will make it easier for you to recognise what they are saying over the phone.

Arrange to have five-minute calls with your rehab partner two to three times a week and choose a different topic to talk about each time. This will expose you to a wider variety of words and help expand your vocabulary. Remember to take the calls in different rooms of the house.

Video call with a familiar speaker

Video and online calls now play a big role in how we communicate. So, it's a good idea to explore making calls using video platforms. If possible, use the platform that you will be using most for work or leisure. Again, start by practising these calls with a familiar speaker. You may find that conversations using video calls are a bit easier to follow because of the additional information that comes from visual cues.

Check if the video call platform that you are using has options for closed captions. This will be especially helpful when you are first getting started, but when you are feeling a bit more confident, you can try switching these off. Depending on how clear the audio signal is, you may find it beneficial to keep these in place.

Auditory rehab with apps and websites

Another way to build your confidence with using the phone is to work on your auditory rehab. Try doing independent auditory rehab on the days that you aren't practising phone or video calls with your rehab partner. Speak to your clinician about any websites or apps they can recommend. Remember, 10 -15 minutes a day is all you need to do!

Video streaming, audiobooks and social media

When you start to get more confident with doing phone or video calls with family members, it's time to move onto understanding fewer familiar speakers. A great way to get started is to listen to YouTube videos, TedTalks or audiobooks, as the content focuses mostly on speech without background music. For more of a challenge, you can watch clips that are being shared on social media platforms. When you are listening to the speakers, listen carefully and focus on distinguishing accents, recognising shifts in tone and pace of speaking.

Phone call with less familiar speakers i.e., friends

Once you have done independent auditory rehab and feel ready for the next challenge, you can arrange to have a call with a slightly less familiar speaker. If you've never tried this before, it may take a bit of practise. This is also a good opportunity to practise your self-advocacy skills – gently remind new conversational partners to speak up or slow down their speech if you are having trouble understanding what they are saying.

Call a business with a simple enquiry

A great way to build confidence when speaking to new people on the phone, is to start by asking a simple question that you may already know the answer to. When you are the one making an inquiry, you are in control of the call and will have a good idea of what the response may be. For example, try calling a shop and asking them what their opening hours are. Before making the call, you can practise with your rehab partner at home. For example, "Hello, can you please tell me what time your store closes today?".

Order something over the phone

If you feel ready, try ordering something over the phone. Phone orders tend to follow a predictable pattern, which can help you prepare and anticipate what will be said. A good one to start with is ordering a pizza. Write down your order before the call and practise what you will say.

Things you can prepare are:

You're greeting and how you will begin the call
Talking about your order
How you will be paying
If you would like the pizza delivered or collected

Celebrate your wins (even the small ones)

Dedicating time out of your day for listening and hearing practise requires commitment and using the phone or new online call platforms for the first time can be a bit nerve wracking for everyone. Don't forget that you can also achieve many of the things you want to via online services. If you find listening on the phone challenging, you can always use other methods to achieve your goals e.g. online ordering or booking. So, remember to do rehab at your own pace and celebrate your progress.

Appendix 1
Extra exercise copies



1. Extra exercise tables

 Exercise

Topic: _____

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

 Exercise

Topic: _____

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

2. Recipient copy of Module 12: Information transfer – complete the missing information*

How?

You and the speaker both have the same table, but you each have different and complementary missing details. The task is to fill in the missing information on both of your sheets by taking it in turns to ask and answer questions. For example, the speaker may ask you: “What street is the house on?” You may ask: “Is the condition of the flat modern, quite modern or not very modern?”

 Exercise (Level 1)*

Street		Park Road
Size	big ✓ quite big small	big quite big small
Condition	modern quite modern not very modern	modern quite modern not very modern ✓
Number of rooms	three	downstairs – two upstairs – three
List of rooms		a living room a kitchen two bedrooms a bathroom/toilet
Central heating		No
Near the shops	Yes	
Distance from town centre		2 km
Rent	\$250 a week	
Any other information		There is a large garden and a garage.

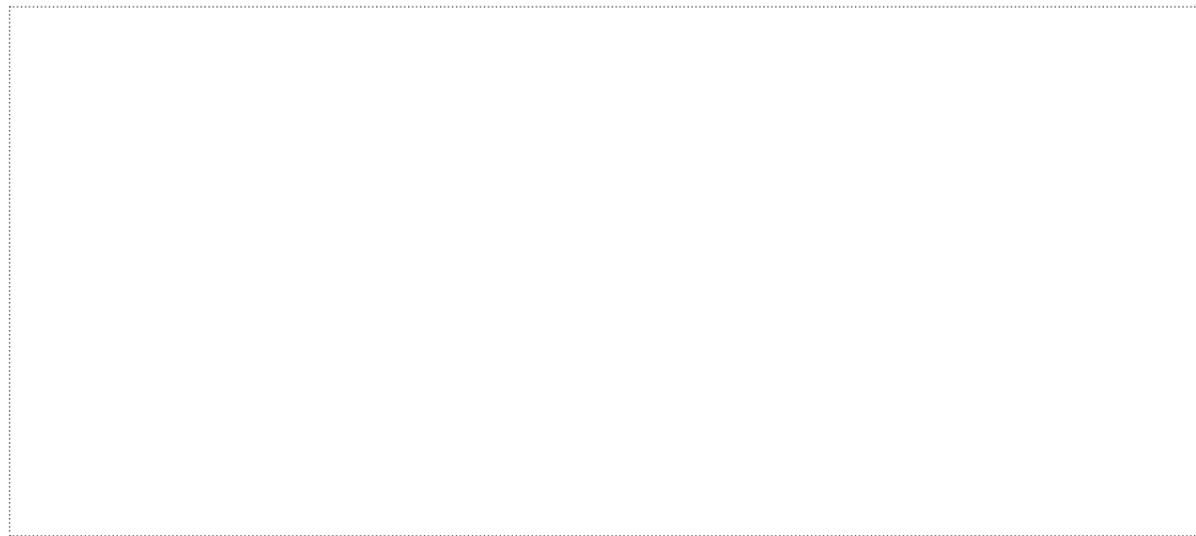
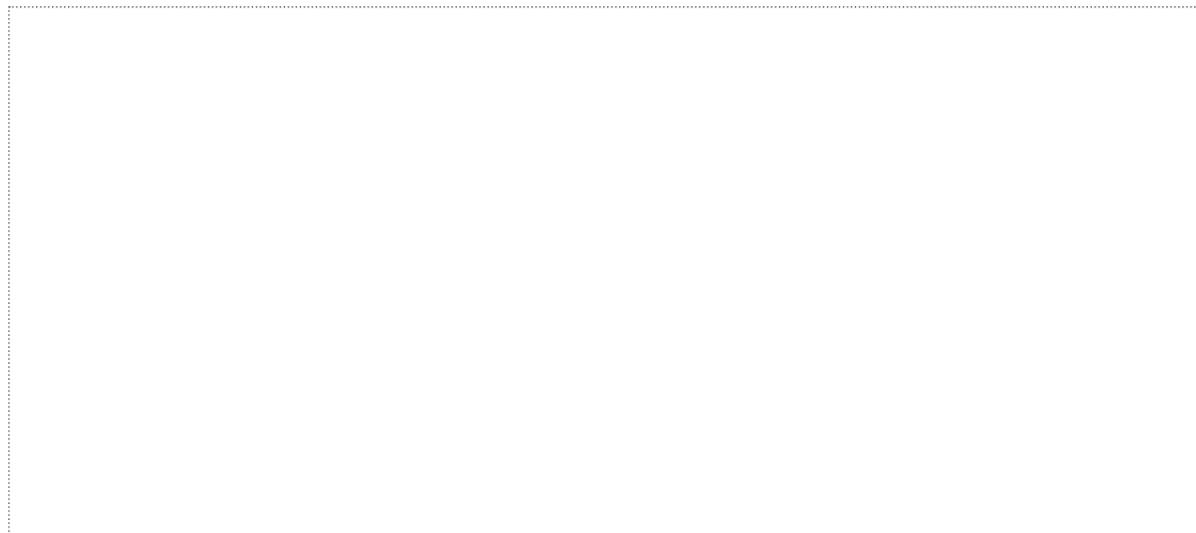
3. Recipient copy of Module 13: Information transfer – describe, perceive, draw*

How?

Below is an empty box. Your speaker is going to help you to draw a pattern of objects and symbols in the box by telling you what to draw and where to draw it. Listen carefully and then draw the items in the box. If you are not sure, use one of the following strategies for clarification, but do not look at the speaker's drawing:

- Ask the speaker to repeat the whole instruction.
- Repeat back what you think the instruction was, for example, "Did you say the top left hand corner?" Your speaker will provide feedback as to which parts you heard correctly.
- Ask your speaker to clarify any parts you are not sure of, for example, "I heard you say 'circle', but I am not sure where to draw."

When you have finished, compare your drawing to the speaker's drawing.



* Adapted from Plant, G. (1991). *Syntrex: Synthetic training exercises for hearing impaired adults, Part 1 Therapist's Handbook*. Sydney: National Acoustics Laboratories.

4. Recipient copy of Module 14: Role play*

Exercise 1

Situation A. Railway ticket office

Task: To obtain a train ticket for your journey home/to visit family.

Introductory sentence: "I would like to buy a train ticket please."

Exercise 2

Situation B. The reception area at your cochlear implant clinic

Task: To obtain a replacement/spare cable for your speech processor.

Introductory sentence:

"I would like a new cable for my speech processor, please."

* Pedley, K. Synthetic training. In: Pedley, K., Lind, C., & Hunt, P. (2005) *Adult Aural Rehabilitation: A guide for cochlear implant professionals*. Sydney: Cochlear Ltd.

5. Recipient copy for Module 16: Questions*

Topic examples

museum	restaurant	post office	shopping	camping
doctor	zoo	beach	airport	swimming
mountains	picnic	music	lesson	supermarket

Exercise

- 1 Where did you go?
- 2 Why did you go there?
- 3 When did you go?
- 4 How many people went with you?
- 5 Who were they? (give names)
- 6 What did you take with you?
- 7 Where is (the place that you went)?
- 8 How did you get there?
- 9 What did you see on the way?
- 10 What time did you get there?
- 11 What did you do first?
- 12 What did you see?
- 13 How many? What colour?
- 14 What happened at (the place where you went)?
- 15 What else did you do?
- 16 What were the other people doing at (the place where you went)?
- 17 What was the most interesting thing that you saw?

Exercise

- 18 What was the most interesting thing that you did?
- 19 What did you buy?
- 20 What kind? What flavour? What colour?
- 21 How much did it cost?
- 22 Did anything unusual happen? What?
- 23 How long did you stay?
- 24 What did you do just before you came home?
- 25 When did you leave?
- 26 How did you get home?
- 27 What happened on the way home?
- 28 What time did you get home?
- 29 How did you feel then?
- 30 When are you going back?
- 31 Do you think that I should go sometime? Why?

Hear now. And always

Cochlear is dedicated to helping people with moderate to profound hearing loss experience a world full of hearing. As the global leader in implantable hearing solutions, we have provided more than 700,000 devices and helped 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 next generation technologies. We collaborate with leading clinical, research and support networks to advance hearing science and improve care.

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

References

1. Fu QJ, Galvin JJ 3rd. Maximizing cochlear implant patients' performance with advanced speech training procedures. *Hear Res.* 2008 Aug;242(1-2):198-208.
2. Oba SI, Fu QJ, Galvin JJ 3rd. Digit training in noise can improve cochlear implant users' speech understanding in noise. *Ear Hear.* 2011 Sep-Oct;32(5):573-81.

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

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

 Cochlear Deutschland GmbH & Co. KG Mailänder Straße 4 a, 30539 Hannover, Germany T: +49 511 542 7750 F: +49 511 542 7770

Cochlear Europe Ltd 6 Dashwood Lang Road, Bourne Business Park, Addlestone, Surrey KT15 2HJ, United Kingdom T: +44 1932 26 3400 F: +44 1932 26 3426

www.cochlear.com



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.

ACE, Advance Off-Stylet, AOS, Ardium, AutoNRT, Autosensitivity, Baha, Baha SoftWear, BCDrive, Beam, Bring Back the Beat, Button, Carina, Cochlear, 科利耳, コクレア, 코클리어, Cochlear SoftWear, Contour, コントウア, Contour Advance, Custom Sound, DermaLock, Freedom, Hear now. And always, Hugfit, Human Design, Hybrid, Invisible Hearing, Kanso, LowPro, MET, MP3000, myCochlear, mySmartSound, NRT, Nucleus, Osia, Outcome Focused Fitting, Off-Stylet, Piezo Power, Profile, Slimline, SmartSound, Softip, SoundArc, SoundBand, True Wireless, the elliptical logo, Vistafix, Whisper, WindShield and Xidium are either trademarks or registered trademarks of the Cochlear group of companies.

© Cochlear Limited 2024. D2090566-V1 2024-02