

27 April 2022

## Better things to come for the Deaf community

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## New drug that reverses hearing loss

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## Uncle Harry Allie served in the Royal Australian Air Force

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## Excessive noise is an environmental issue

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Currently **one in six** Australians suffer from some form of hearing loss. This may increase to one in four by 2050. <sup>1</sup>  
Access Economics 2006

Deafness Forum Australia is a Voice for All. It is the peak body representing the views and interests of the 4 million Australians who live with hearing loss, have ear or balance disorders, people who also communicate using Australian Sign Language, and their families and supporters. Our mission is to make hearing health & wellbeing a national priority in Australia.

# The surge of sign languages on screen is a sign of better things to come for the Deaf community

by Naja Later, [The Conversation](#)



When Troy Kotsur was [awarded Best Supporting Actor](#) at the recent Academy Awards, he dedicated his win to the [Deaf community](#). CODA went on to win Best Picture and Best Adapted Screenplay, making it a major step forward for the Academy's recognition of marginalised storytelling.

[CODA](#), an acronym for Child Of Deaf Adults, follows the story of teenager Ruby Rossi. She dreams of being a singer, but is trapped by her Deaf family's dependence on her as their interpreter. Torn between her familial burdens and her longing to fit into hearing culture, Ruby struggles to convince her family to support her own goals.

## **American sign language in pop-culture**

CODA is one of many recent films and TV productions to incorporate [sign languages](#). There's been a noticeable wave of signing on screen since 2020: Sound of Metal, Eternals, A Quiet Place 2, Hawkeye, and Only Murders In The Building have all featured Deaf actors using [American Sign Language \(ASL\)](#).

Lauren Ridloff's acclaimed [supporting role in Eternals](#) features her as Makkari, a Deaf superhero who can sense speaking vibrations and read lips, but communicates to others using (somewhat anachronistic) American Sign Language.

Signing has also appeared in sci-fi: Dune, Godzilla vs Kong, and The Book of Boba Fett all showcase futuristic uses of non-verbal communication.

In Dune, sign [language](#) is a practical method of secret communication. King Kong is taught ASL to communicate with humans much like the [real-life gorilla Koko](#).

Troy Kotsur also [developed a fictional sign language](#) for the alien Tusken in The Mandalorian, and the spin-off Book of Boba Fett expands on Tusken signing.

## Positive representation

These are positive steps for representation in Hollywood, especially since many of these productions have hired Deaf performers and consultants. This wave could lead to normalising deafness, create more Deaf jobs, and attract more hearing people to learn how to sign.

Some Deaf critics have drawn attention to problematic stereotypes in CODA: the helplessness of the family is exaggerated to show the burden they put on hearing people.

At their core, these productions generally centre a hearing point of view. CODA sympathises primarily with a hearing protagonist, and its key emotional moments happen in speech and song.

There are similar problems with the other films: in A Quiet Place and its sequel, the ASL is often out of shot and poorly communicated. In Eternals, super-powered lip-reading removes any responsibility for the hearing characters to communicate in visually accessible ways.

## Captions and accessibility

What makes CODA ground-breaking as a film for deaf people is not the narrative itself, but the accessibility. CODA is one of the first major features where the captions are "burned in" or hard-coded on every screen.

When only the signing is captioned, like in Eternals, the assumption is that the audience can understand everything except ASL. Even then, ASL is not a universal language: Deaf British and Australian audiences will be left in the dark. Many deaf people are not raised with sign languages because they have hearing parents, and rely entirely on captions. Unless speech is captioned equally with signing, the film is packaging a deaf experience for a hearing audience. Captions are a concrete way films can support deaf audiences and ensure they are not just about deaf people but for deaf people.

Without hard-coded captions, the onus is placed on deaf viewers to seek out closed (optional or hidden) caption versions of the films that supposedly represent them. Closed caption technology is notoriously bad in cinemas: the devices are poorly-maintained and difficult to use, because they are designed to obscure the visibility to preserve the hearing audience's experience. Recently there have been more calls for open-captioned cinema sessions, where subtitles appear at the bottom of the big screen, but these are still few and far between.

Captions are perfectly normal outside the English-speaking world, where most cinemas will show Hollywood movies with captions. The booming popularity of streaming services has normalised [captions](#) on our TV screens, especially as we gain easy access to more international productions.

No matter how well Deaf people are represented on the screen, a lack of captioning creates an unequal language barrier for deaf viewers. Until the films and shows themselves are accessible, storytelling continues to favor and center [hearing](#) people's experience.

While CODA has some issues, it's [explicitly accessible to a deaf audience](#).

Unless the films themselves are screened equally, the communities onscreen will never be equal. CODA is a win for everyone who has struggled to feel included in screen media, on the surface and in the medium itself.

# Group music therapy helps kids understand complex sounds

From [The National Tribune](#)

A 12-week music program is helping children learn to optimise their hearing aids and cochlear implants, by teaching them to better understand the sounds they detect.

The program, developed by Dr Chi Yhun Lo from Macquarie University, helps the children to extract meaningful information, such as separating noise from what they want to hear, a skill that is critical to their education and emotional development.

“Deafness is often seen as a barrier to engagement with music,” says Chi. “On the contrary, music actually is an excellent way to improve the problems associated with hearing loss.”

For children with recently acquired cochlear implants or hearing aids, the world can be a confusingly noisy place. But group music lessons and app-based home activities in which children sing, dance, play instruments and become involved in games like ‘guess the instrument’ helps them sort out different types of sounds.



Chi’s research, published earlier this year, found that such music groups boosted the children’s general capacity to learn, as well as their emotional health.

Originally a musician and audio engineer for events like the Sydney Festival, Chi now uses his skills to understand speech and hearing better.

“Professional musicians are excellent listeners,” says Chi. “We’re trained to identify subtle changes in tone, pitch and timbre, all the things which make up the rich character of a sound.”

The program was inspired by [Chi’s previous research](#), which found that music training helps people with cochlear implants understand ‘prosody’ or the rhythms of stress and intonations which are critical to detecting emotion in voice, or figuring out whether something is a question or a statement.

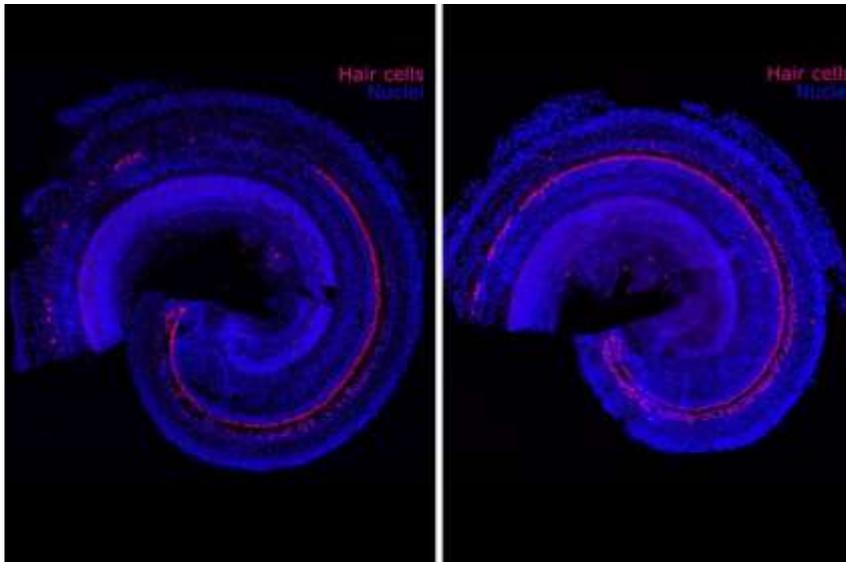
“My study shows that music training is particularly helpful, as it teaches kids to pick up quick and detailed changes in sound,” says Chi. “It was heartening to see rapid improvements in our students’ social wellbeing, improved peer relationships and emotional regulation, as well as a drop in anxiety and depression.”

The development of the program was supported by the Shepherd Centre, a specialist service for children with hearing loss.

Ingrid Steyns, Principal Manager of Clinical Learning said, “The benefit of music for children with hearing loss is such a valuable and important area for research, and the evidence-based information that comes from the development of tools such as these helps us to support the full development of each deaf child.”

# MIT scientists develop new regenerative drug that reverses hearing loss

By Zach Winn, [Massachusetts Institute of Technology](#)



These images show cellular regeneration, in pink, in a preclinical model of sensorineural hearing loss. The control is on the left and the right has been treated. Credit: Hinton AS, Yang-Hood A, Schrader AD, Loose C, Ohlemiller KK, McLean WJ.

The biotechnology company Frequency Therapeutics is seeking to reverse hearing loss — not with hearing aids or implants, but with a new kind of regenerative therapy. The company uses small molecules to program progenitor cells, a descendant of stem cells in the inner ear, to create the tiny hair cells that allow us to hear.

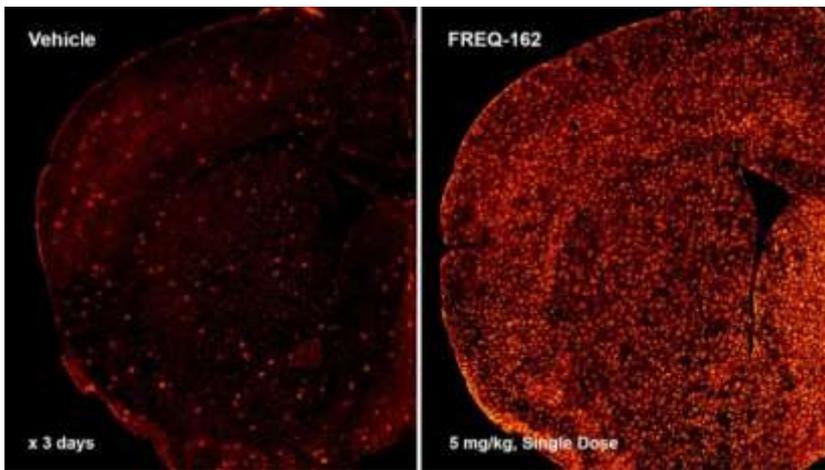
Hair cells die off when exposed to loud noises or drugs including certain chemotherapies and antibiotics. Frequency's drug candidate is designed to be injected into the ear to regenerate these cells within the cochlea. In clinical trials, the company has already improved people's hearing as measured by tests of speech perception — the ability to understand speech and recognise words.

"Speech perception is the No. 1 goal for improving hearing and the No. 1 need we hear from patients," says Frequency co-founder and Chief Scientific Officer Chris Loose PhD.

In Frequency's first clinical study, the company saw statistically significant improvements in speech perception in some participants after a single injection, with some responses lasting nearly two years.

The company has dosed more than 200 patients to date and has seen clinically meaningful improvements in speech perception in three separate clinical studies. Another study failed to show improvements in hearing compared to the placebo group, but the company attributes that result to flaws in the design of the trial.

Now Frequency is recruiting for a 124-person [trial](#) from which preliminary results should be available early next year.



These two images show that one of Frequency’s lead compounds, FREQ-162, drives progenitor cells to turn into oligodendrocytes. The control is on the left and the right has been treated. Credit: Frequency Therapeutics

Progenitor cells reside in the inner ear and generate hair cells when humans are in utero, but they become dormant before birth and never again turn into more specialised cells such as the hair cells of the cochlea. Humans are born with about 15,000 hair cells in each cochlea. Such cells die over time and never regenerate.

In 2012, the research team was able to use small molecules to turn progenitor cells into thousands of hair cells in the lab. No one had ever produced such a large number of hair cells before. The founders believe their approach — injecting small molecules into the inner ear to turn progenitor cells into more specialised cells — offers advantages over gene therapies, which may rely on extracting a patient’s cells, programming them in a lab, and then delivering them to the right area.

The company is also developing a drug for multiple sclerosis (MS), a disease in which the immune system attacks the myelin in the brain and central nervous system. Progenitor cells already turn into the myelin-producing cells in the brain, but not fast enough to keep up with losses sustained by MS patients. Most MS therapies focus on suppressing the immune system rather than generating myelin.

Early versions of that drug candidate have shown dramatic increases in myelin in mouse studies. The company expects to file an investigational new drug application for MS with the FDA next year.

The **Read Our Lips Australia** course can help make everyday communication easier, especially at times when there is background noise such as in coffee shops, restaurants, at family gatherings, and in meetings.

**Read Our Lips Australia** is a self-paced e-learning platform that focuses on teaching users the most visible movements of the mouth, jaw, teeth and tongue. Each of the 8 lessons includes a Practice Zone (warm up), a teaching Lesson, Word Practice, Sentence Practice, and a chance to test your skills.

For more information visit [www.readourlips.com.au](http://www.readourlips.com.au)



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# Excessive noise is an environmental issue in U.S.

From Letters to the Editor, [Chicago Sun Times](#)



Excessive noise is an often-neglected form of environmental pollution. We are constantly bombarded by excessive noise — from leaf blowers and lawn mowers, motorcycles, loud car stereos, barking dogs, helicopters, airplanes, noisy neighbors, car traffic, raucous restaurants, and honking horns.

All this acoustic chaos is very harmful. High noise levels are associated with heart disease, elevated blood pressure, hearing loss, sleep deprivation, ringing of the ears, headaches, and chronic fatigue. Excessive noise is also a cause of reduced property values and decreased job and academic performance.

Noise is also a climate change issue. Lawn and garden equipment is responsible for around 5% of the nation's air pollution. An EPA study indicates that a gas-powered leaf blower creates as much nitrogen oxide emissions and volatile organic compounds in one hour as 11 cars being driven for one hour.

Noise is also an ecosystem issue. High-intensity sound can induce fear, causing species to abandon their habitat. Birds are having to chirp louder because of the constant din. Since the 1960s, there has been a 16-fold increase in ocean noise, posing a threat to fish, dolphins, and other marine life.

What can be done? Municipalities should ban gas-powered leaf blowers. The police should vigorously enforce noise ordinances.

# Hannah faced a 'deaf future', until an auditory brain stem implant changed her life

By [Tabarak Al Jrood](#) for [ABC News](#)



Hannah McPierzie was born with a rare genetic condition, which affects hearing and balance.

At the age of 31, Hannah McPierzie faced a decision she never thought she'd have to make: leave a tumour in her brain and lose the ability to walk, or remove it and become completely deaf.

Ms McPierzie was born with a rare genetic condition called neurofibromatosis type 2 (NF2), which causes multiple benign tumours to grow on the brain and spine, affecting hearing and balance nerves. She didn't even know she had the condition until she noticed hearing loss in her 20s.

"I'm a teacher so I noticed it more every day in my work, hearing kids in class got harder and I noticed I needed captions when I was watching TV," she said. "It was quite gradual ... my body probably made adjustments without me even realising."

Ms McPierzie spent years in hospital as specialists tried to suppress the growth of the tumours on her auditory nerves. Due to a non-functioning cochlear nerve, she would not have benefited from a hearing aid but was identified as a candidate for an implant, which goes all the way into the brain.

In 2019, she underwent surgery at Sir Charles Gairdner Hospital to remove a tumour on the right side of her brain and to insert an auditory brain stem implant (ABI). However, it failed to work, and she was left with only one functioning ear.

Ms McPierzie spent the next year working on improving her Auslan skills and relying on a hearing aid for her left ear, before that also started to deteriorate after she developed another tumour. She was given two choices – leave the tumour and potentially risk losing more motor skills over time, or have an operation which risked total deafness. She made the tough decision to remove the tumour, undergoing surgery again in early 2021.

The 18-hour procedure at Sir Charles Gairdner Hospital was led by Dr Jafri Kuthubutheen and Dr Arul Bala, with the assistance of Dr Dayse Tavora-Vieira and a specialist team from the newly formed state-wide audiology service at Fiona Stanley Hospital.



Dr Tavora-Vieira doing a frequency test with Ms McPierzie as Dr Kuthubutheen observes. (ABC News: David Weber)

"We were very anxious that we may not be able to give Hannah a sense of hearing back after removing the tumour," Dr Kuthubutheen said. "But we felt that we had to give it a go, we owed it to Hannah ... she was such a strong person, she has been so brave throughout the whole journey, and we felt like we had to give it our best shot."

Ms McPierzie spent the next two months recovering in complete silence.

"I knew I would be deaf, but it was just really strange," she said. "It's like watching TV with the mute button on ... you know there are sounds [but] you can't hear it. It was a really surreal experience ... mixed with recovery."

"When we came in for a switch on, I didn't have high hopes because I didn't want to get disappointed again. I kind of got used to the idea of having a deaf future."

But that all changed when she heard the first 'beep'.

"They turned on each of the twelve electrodes and I heard every single one. I could hear people talking, but it didn't sound like a normal person ... it sounded very strange."

It took time for Ms McPierzie's brain to interpret and process sounds, but due to the successful placement of her second ABI, she went from being completely deaf to getting 80 per cent speech understanding scores in under four months.

Her condition soon improved to the point where she could do everyday things like ordering a coffee and crossing the street, and it also allowed her to go back to teaching. Ms McPierzie said the treatment she received had changed her life.

"Being able to hear the voices of my family and friends again was surreal ... I never thought I'd hear my husband's voice again. I am incredibly grateful for our public health system here in WA and the amazing team that treated me."

# Hearing Australia's call to ears

From [Australian Seniors News](#)



Royal Australian Air Force Aboriginal Elder and retired Warrant Officer Uncle Harry Allie (Photo: Aircraftwoman Emma Schwenke).

Hearing loss and tinnitus are two of the most common conditions experienced by former Australian Defence Force personnel.

Hearing Australia was founded in 1947 to provide services for returning WWII veterans is calling on all veterans to take action on their hearing health. The organisation currently cares for over 50,000 veterans and their family members.

Veterans of all ages may experience hearing loss or tinnitus (a ringing or buzzing sound in the ears), or both conditions due to their exposure to loud noise during military training and service. Exposure to loud sounds is the most significant cause of preventable hearing loss in the Australian population and left untreated it can significantly impact everyday life, with consequences for an individual's social and mental wellbeing.

"The key to better hearing health is to not delay getting help," says Karen Hirschausen, Principal Audiologist at Hearing Australia.

"And the first step is getting a hearing check, to ensure you stay connected to your family, friends and communities. For those who may have concerns about their own hearing or the hearing health of a loved one, a hearing check is an easy first step to identifying any problems and your audiologist will then work with you to find the right solution to suit you."

Hearing Australia client, 79-year-old Uncle Harry Allie (*pictured*), is one of some 72,000 Australians currently receiving help. A proud Gudjala man, Uncle Harry served in the Royal Australian Air Force from 1966 to 1989 and in 2012 he was appointed the first Air Force Indigenous Elder.

“My hearing was slowly declining, and it reached a point where it became an issue for me,” says Uncle Harry. “I couldn’t hear people at committee meetings and my wife would complain I had the TV volume up too loud. That’s what really prompted me to first seek help.

“From the day my hearing aids were fitted, I immediately noticed I no longer had to turn my ear in the right direction or read someone’s lips to have a conversation and I didn’t have to wait for someone to tap me on the shoulder to tell me they were talking to me.

“There are things you take for granted, particularly in country areas like the sounds of birds and trees. Being able to hear those things and having that connection to nature is important for me.

“At my age, the fact that I can still serve on committees, attend events and enjoy so many other activities in life is wonderful.”

Kim Terrell, Managing Director of Hearing Australia said, “We have a proud 75-year history of providing services for veterans and we currently care for thousands of veterans and their families around the country, helping them to rediscover the joy of sound and stay in touch with the people and life they love. We encourage all veterans to have a hearing check and take that first step to better hearing.”

## New research

- [Tinnitus: at a crossroad between phantom perception and sleep](#)
- [Development of a Battery of Audiological Tests for the Precision Diagnosis of Age-related Hearing Loss](#)
- [The Effect of Multichannel and Channel-free Hearing Aids on Spectral-Temporal Resolution and Speech Understanding in Noise](#)
- [Relationship of age-related hearing loss with cognitive decline and dementia in Sinitic tonal language-speaking populations: protocol for a systematic review and meta-analysis](#)
- [Asymmetric sensorineural hearing loss in children: progression and involvement of the contralateral ear](#)
- [Age-related changes in neuronal receptive fields of primary auditory cortex in frequency, amplitude, and temporal domains](#)
- [Consensus Statement on Bone Conduction Devices and Active Middle Ear Implants in Conductive and Mixed Hearing Loss](#)
- [Tobacco, but Neither Cannabis Smoking Nor Co-Drug Use, Is Associated With Hearing Loss in the National Health and Nutrition Examination Survey, 2011 to 2012 and 2015 to 2016](#)
- [The body image in hearing aid and cochlear implant users in Turkey](#)
- [Hearing loss after bacterial meningitis, a retrospective study](#)
- [Evaluating the Effectiveness of a New Auditory Training Program on the Speech Recognition Skills and Auditory Event-Related Potentials in Elderly Hearing Aid Users](#)

# Sign language expert helps man at Dubai Summit

By [Ali Al Shouk](#), Senior Reporter for [Gulf News](#)



There were many interpreters to assist the participants at the World Government Summit in Dubai. Yehia Saleh Al Ammari, from Dubai Police, and the other members from the People of Determination Council, were going out of their way to ensure that people attending the World Government Summit and visiting the World Government Summit felt very welcome. These officers, who are entrusted with the responsibility to help people of determination, can be easily identified by their special, green vests with a badge that says 'Sign Language Interpreter'.

Al Ammari said that he met an Emirati man who wanted to attend the World Government Summit. "He told me that he had heard about the summit and wanted to know more about it and participate in it. I welcomed the man and helped him access the summit. He was wondering who would interpret the sessions for him. So I offered to stay with him at the summit and translate the sessions that he wanted to attend."

Al Ammari stood in front of the man at the main hall and used sign language to translate the speeches presented at the summit by different officials.

"It is a humanitarian mission to help people of determination at this global event. I'm happy and proud to help make a visit to this event enjoyable for anyone and everyone," Al Ammari added.

## Know someone who deserves their own copy of One in Six?

Drop us a line to [hello@deafnessforum.org.au](mailto:hello@deafnessforum.org.au)

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