

# Students with cochlear implants in a Pandemic

## How are they doing?

Connie Mayer

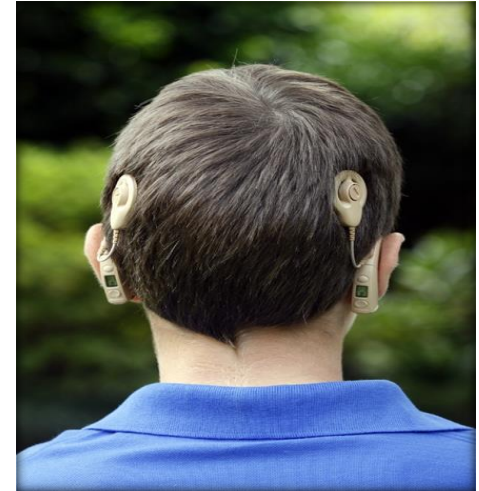
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# Perspectives from an educator



# The short answer is...

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Better than we could have imagined!

Cochlear implantation has impacted outcomes for **profoundly deaf** children in ways that no shifts in pedagogy (i.e., curricula, AVT) or communication approach (i.e., sign bilingual, Total Communication) have previously achieved (Archbold & Mayer, 2012; Mayer & Leigh, 2010)

# Before cochlear implants

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Limited auditory access to spoken language

Poor outcomes in language and literacy

Graduating high school reading and writing at 9 year old level

(Conrad, 1979; Pintner & Patterson, 1916; Qi & Mitchell, 2012)

Educated in congregated settings (e.g., class or school for the deaf)

Use of signed communication to support access

# After cochlear implants

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Meaningful auditory access to spoken language **for the first time**

Age-appropriate outcomes – sometimes in more than one language

Majority reading and writing in average or above average range

(Mayer et al., 2021; see Mayer & Trezek, 2018 for a review)

Educated in inclusive, integrated, mainstream settings

Far less use of signed communication

# But...

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Will they be victims of their own success?

- ▣ Are they doing so well that they don't need support?
- ▣ What does support look like for students with CIs? Who? How much? What kind? Beyond the preschool years?
- ▣ What about the students with CIs who struggle? Who were later implanted? Who lacked early support services? Who have additional needs?

# Access still an issue

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*The reason why I don't like the new average class size changes is because I am a deaf/hard of hearing student and so this increase of class sizes will make it really hard for me to learn anything, especially when it gets too noisy.*

Omar - CI user, 16 years old, home language Pashtu

# And then a pandemic...

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## Masks

- Degraded auditory input – especially high frequency sounds
- Surgical or KN95 masks best
- Clear masks are worse – choose between seeing and hearing?
- Which mask is best for hearing?

University of Illinois Augmented Listening Laboratory

<https://www.youtube.com/watch?v=4bUp2TosgzE>



# Pandemic classrooms

Air ventilation systems => noisier classrooms => harder to hear

❑ Note: Cheaper units are louder – what does that mean? (John Hopkins Bloomberg School of Public Health Center on Health Security)

Sound field systems can help

❑ Tip: Put the microphone below the chin when wearing a mask (University of Illinois Augmented Listening Laboratory)

# Quieting of children's lives

Research indicates an association between lockdowns and a reduction in access to spoken communication (Gordon et al., 2021)

- ❑ School aged children with CIs from Kindergarten to High School experienced significant decreases in exposure to speech sounds
- ❑ Equal to about one hour a day
- ❑ Missed hearing between 600 and 2000 words and 100 to 400 conversational turns

What does this mean for language learning and development?

# Learning online

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*I just want to put my arm through the screen ...* a teacher expressing her frustration with online learning

*Captions are great – but not for younger students who don't know how to read! ....* an administrator in the school program discussing online access

*I get tired – it's hard work to watch and listen – and it gets boring too! ....* a view from a student with CIs

# Learning online

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*I think having CIs at this time in my life has been a benefit. If I were to have hearing aids like I did at the start of Covid – it would be a struggle all the way through ... When I was online before with my hearing aids, I would do everything to try and hear people on meetings – turn up the volume, go to a quiet room. Once I got my CIs and we did online I didn't even have to try. I could just hear so well!*

A text message from Holly – a 13 year old student with CIs

# Take-away thoughts

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We need to celebrate the **remarkable achievements** of students with CIs. This is a milestone in the history of deaf education.

But....

- ❑ We must not take this success for granted
- ❑ These students will continue to need our support ... even after the pandemic is over!