



Nevada Deaf and HH Comission
November 13, 2019

Hear now. And always 

Introductions

Northern California & Northern Nevada Cochlear Team

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Introductions



- **Beth Gautereaux, Au.D.,**
CCC-A, FAAA, CISC
- Cochlear Provider Network
Territory Manager
- Lives locally in Reno



Bilingual Concierge



- Cynthia- mom to Phoebe- 9 year
old bilateral CI recipient
- Fluent in Spanish
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Cochlear's Mission



We help people hear and be heard.

We **empower** people to connect with others and live a full life.

We **transform** the way people understand and treat hearing loss.

We **innovate** and bring to market a range of implantable hearing solutions that deliver a lifetime of hearing outcomes.

Dr. Graeme Clark's passion



- Dr. Graeme Clark invented the world's first multichannel cochlear implant in 1978
- Since that first miracle, more people have chosen Cochlear-branded implants than all other hearing implants combined^{1,2}
- Cochlear has helped to bring hearing to over 450,000 people



Dr. Graeme Clark and Rod Saunders, the world's first multichannel cochlear implant recipient.

Hearing Loss is a Growing Concern

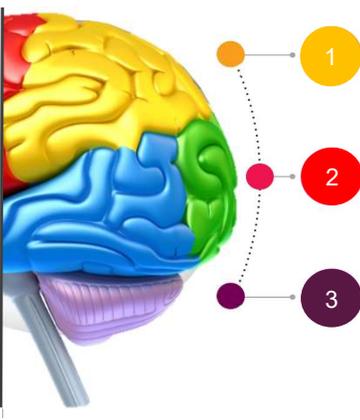
Foundations of Disabling Hearing Loss



- 466,000,000 People**
The World Health Organization estimates that over 5% of the world's population – 466 million people – has a disabling hearing loss. By 2050 this is expected to rise to over 900 million people – or one in every ten people.¹
- 1 out of every 3**
Nearly 1 out of every 3 people over the age of 65 is affected by hearing loss. It affects communication and can contribute to social isolation, anxiety, depression and acceleration of cognitive decline.^{2,3}
- >10,000,000**
Millions of people could benefit from implantable technology – cochlear implants and bone conduction implant. This includes pediatrics and adults globally. While users can generally be satisfied with hearing aids, overall satisfaction is significantly lower for those with severe to profound hearing loss³

1. Data source: World Health Organization, www.who.int/deafness/en/
 2. Lin FR et al (2013) Hearing loss and cognitive decline in older adults. JAMA Intern Med, 174(4):293-299
 3. Mondelli et al (2013) Degree of satisfaction among hearing aid users. Int Arch Otorhinolaryngol, 17(1):51-56.

Hearing Loss is a Growing Health Concern



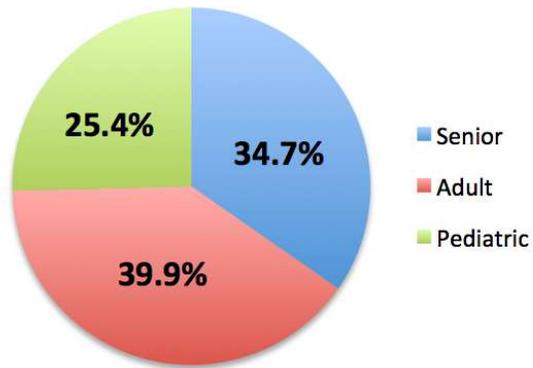
- 1 Cognitive Health**
Increased risk of developing dementia by 50% in just 5 years compared to those without hearing loss(1)
- 2 Duration of Hearing Loss**
Independent studies have demonstrated a relationship between duration and severity of hearing loss with improved CI performance outcomes
- 3 Benefits of Residual Hearing**
Benefits of bimodal hearing are boosted when low frequency hearing in the implanted ear combines with the cochlear implant and partners with acoustic hearing in the contralateral ear.

1) Brody, J. E. (2018, December 31). Hearing Loss Threatens Mind, Life and Limb. Retrieved from <https://www.nytimes.com/2018/12/31/well/live/hearing-loss-threatens-mind-life-and-limb.html>

Cochlear Implant Demographics*



CI Recipients by Age Group



*Cochlear Americas Recipient Data on file, Jan 2015

When hearing aids are not enough

Hear now. And always



Cochlear Implantable Solutions



Cochlear Nucleus® System	Cochlear Nucleus Hybrid System	Cochlear Baha® System
<p>A system that helps individuals* with severe to profound sensorineural hearing loss who only receive limited benefit from amplification</p> 	<p>Hybrid Hearing delivers maximum long-term performance outcomes for patients with severe to profound high frequency hearing loss**</p> 	<p>An osseointegrated auditory implant system for individuals† with unilateral profound hearing loss (single-sided deafness), mixed or conductive hearing loss</p> 
<small>* Children 2-17: severe-to-profound SNHL, children 1-2 years: profound SNHL, adults: moderate-to-profound SNHL. **Hybrid L24 approved for recipients 18 and older. The Cochlear Nucleus Hybrid acoustic component is not compatible with the Kanso Sounds Processor. The Kanso Sound Processor is not intended to be used by Hybrid L24 Cochlear Implant recipients who receive benefit from the acoustic component. †Implant appropriate for aged >5 years old. Younger children may use the Baha Softband system</small>		

Hear now. And always

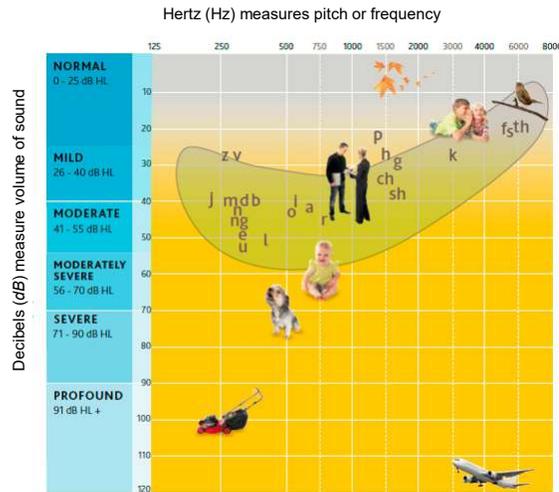




Get Back The Sounds You've Been Missing



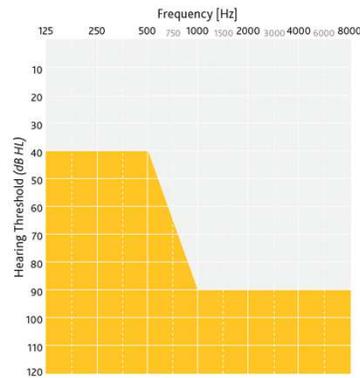
The audiogram below indicates sounds you may have access to with a cochlear implant. (Shaded in yellow)



Consonants and vowels are spoken at frequencies in the spectrum of sound that fall within the highlighted area, also known as the “speech banana”.

Pictures represent the sounds you can typically hear at different volume and frequency levels.

Nucleus® Cochlear Implant Criteria



- ADULTS (18+ Yrs)**
 - Moderate-to-profound SNHL in both ears
 - Limited benefit from amplification defined by preoperative test scores of $\leq 50\%$ open-set sentence recognition in the ear to be implanted and $\leq 60\%$ in the opposite ear or binaurally
- CHILDREN (2-17 yrs)**
 - Severe-to-profound SNHL in both ears
 - Limited benefit from binaural amplification trial with MLNT/LNT scores $\leq 30\%$
- CHILDREN (12-24 mos)**
 - Profound SNHL
 - Limited benefit from binaural amplification trial based on MAIS/IT-MAIS

The Cochlear™ Nucleus® Implant System



- Two main components
 - The internal implant
 - The external sound processor



Cochlear Nucleus Profile Implant

Nucleus® 7 Sound Processor

Kanso® Sound Processor

Easier Access to MRI¹

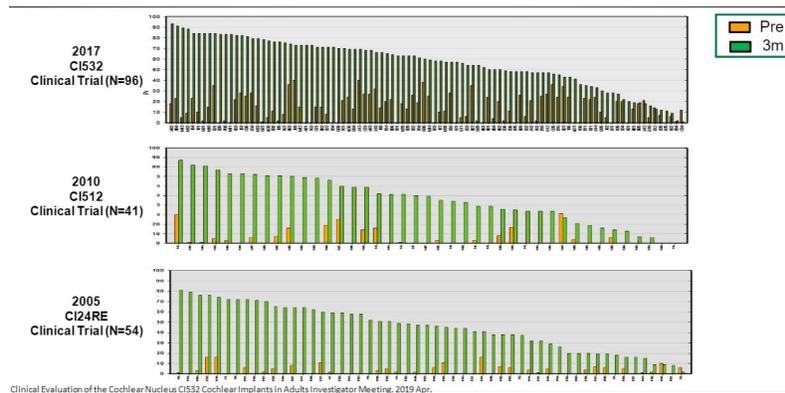
With the Cochlear Nucleus Profile Plus Series Implant your patients have access to 1.5 and 3.0 Tesla without the need for magnet removal or head wrap.

- Designed for safe access to MRI today and in the future with an easy to remove magnet from the top of the implant
- No waiting to undergo a scan and no unnecessary time without sound



1 Cochlear Nucleus Implant Magnetic Resonance Imaging (MRI) Guidelines - United States of America D774756

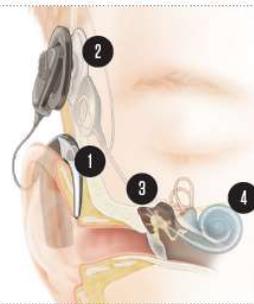
More People Hear Better Faster



Nucleus Cochlear Implant – How it Works



1. Sound processor microphones pick up sounds from the surrounding environment and convert the sound into digital information.
2. Digital information is transferred through the sound processor coil and received by the implant located just under the skin.
3. Electrical impulses are created and sent to the electrode implanted within the cochlea, bypassing the damaged hair cells, communicating with the auditory nerve.
4. Signals from the auditory nerve are received by the brain, giving the sensation of sound.





The first mobile phone call was made on April 3, 1973*... the device offered a mere 30 minutes of talk time per 10-hour battery charge.

*<https://www.theatlantic.com/technology/archive/2013/04/the-first-mobile-phone-call-was-made-40-years-ago-today/274611/>

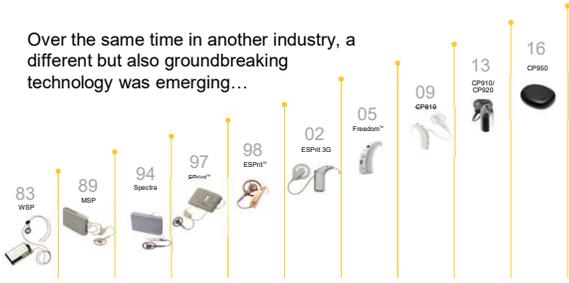


At the time this was groundbreaking technology, so it's fair to assume no one could have predicted that by 2014*, mobile devices would outnumber people on the planet.

*<http://www.independent.co.uk/life-style/gadgets-and-tech/news/there-are-officially-more-mobile-devices-than-people-in-the-world-9780518.html>



Over the same time in another industry, a different but also groundbreaking technology was emerging...



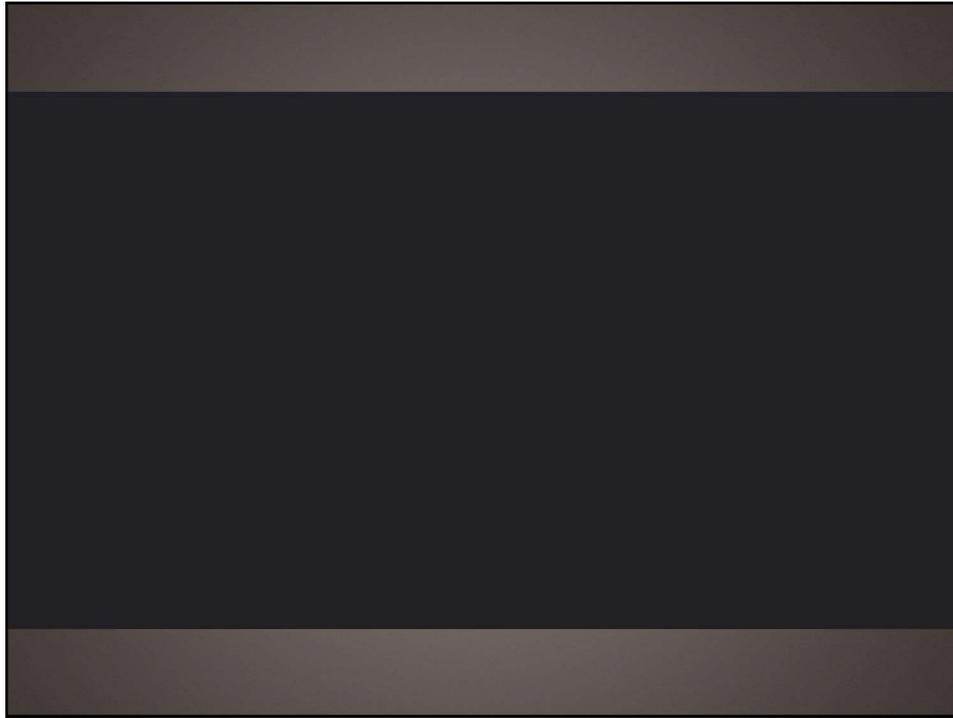
A timeline of Cochlear hearing aid models from 1983 to 2016. Each year is marked with a vertical line and a small image of the device. The models shown are: 83 WSP, 89 MSP, 94 Spectra, 97 2Dyna™, 98 ESPi™, 02 ESPi 3G, 05 Freedom™, 09 CP910, 13 CP910/CP920, and 16 CP950.

Year	Model Name
83	WSP
89	MSP
94	Spectra
97	2Dyna™
98	ESPi™
02	ESPi 3G
05	Freedom™
09	CP910
13	CP910/CP920
16	CP950



and who could have predicted that by 2017, phone calls would be routinely taken directly through mobile devices by people with severe and profound hearing losses?









Cochlear Connectivity Evolved



Nucleus® 6
Sound Processor



Nucleus® Kanso®
Sound Processor



Nucleus® 7
Sound Processor



Nucleus® 7
Sound Processor



Nucleus® 7
Sound Processor

Direct to Device NEW

2013

SSIQ with SCAN
True Wireless™ Accessories
Datalogging

2016

Cochlear's first
off-the-ear
sound processor
with built-in True
Wireless

2017

The world's smallest and lightest
behind-the-ear sound processor¹
Nucleus Smart App for iPhone³
Direct streaming for iPhone®
50% more battery life²

2018

Nucleus Smart App for Android™³
ForwardFocus

2019

**Direct streaming
for Android™³**
**Nucleus Smart App
for Apple Watch®³**

1. Cochlear Limited. D119855. CP1000 Processor Size Comparison. 2019. Apr. Data on file.

2. Cochlear Limited. D114837. Battery Life and Power Consumption Comparison Between CP1000, CP960 Series and CP810 Sound Processors. 2017. Mar. Data on file.

3. The Cochlear Nucleus 7 Sound Processor is compatible with Apple and Android devices, for compatibility information visit www.cochlear.com/compatibility. Compatible Android devices that enable direct audio streaming are anticipated soon.

Bimodal Hearing Solutions





Nucleus® 7



Nucleus 7 Hybrid™



Nucleus Kanso®



Nucleus 6



Nucleus 6 Hybrid



Baha® 5



Baha 5 Power



Baha 5 Super P-POWER



LINX Quattro™ 61 RIC



LINX 3D™/LINX® 61 RIC



LINX Quattro/LINX 3D/LINX® 62 RIC



LINX 3D/LINX® 67 BTE



LINX 3D/LINX® 77 BTE



LINX 3D/LINX® 88 Power BTE



ENZO 3D™/ENZO® 88 High Power, 98 Super Power BTE



Up/Up Smart™ 67 BTE, 77 BTE, 88 Power BTE, 98 SP BTE



Cochlear Phone Clip/ ReSound Phone Clip+



Cochlear Mini Microphone 2 and 2+/ ReSound Micro Mic and Multi Mic



Cochlear TV Streamer/ ReSound TV Streamer 2

Different From Hearing Aids



Hearing Aids

- Amplify sounds through air conduction
- Push sound through the damaged part of the ear
- Make sounds louder
- Are not covered by insurance

Baha System

- Transmits sound waves through the bones in our head
- Bypasses the outer and middle ear and sends sound directly to the inner ear
- Makes sounds louder and clearer¹
- Is covered by Medicare, many insurance plans and may be covered by Medicaid



"When they turned my Baha on, it was like when the Wizard of Oz changed from black and white to color."

— Meryl B., Baha System recipient

Baha® Softband System



- Designed for infants and toddlers who are not yet ready or eligible for an implant*
- Excellent hearing performance and the amplification they need to help facilitate language development on par with their hearing peers²⁷
- Simple to use and comfortable to wear
- Can be fitted with one or two of any of our Baha 5 Sound Processors



- 1 Adjustable strap
- 2 Safety release
- 3 Baha SoftWear Pad*
- 4 Connects to all Baha 5 sound processors

*In the United States and Canada, the placement of a bone anchored implant is contraindicated in children below the age of five.

Baha® SoundArc System



- Designed for toddlers and children who are not yet ready or eligible for an implant*
- Fits securely and comfortably in place
- Great for active kids
- Excellent hearing performance and the amplification they need to help facilitate language development on par with their hearing peers²⁷
- Can be fitted with one or two of any of our Baha 5 Sound Processors



- 1 Soft silicone tips
- 2 Baha SoftWear Pad
- 3 Adjustable spring band
- 4 Connects to all Baha 5 sound processors

*In the United States and Canada, the placement of a bone anchored implant is contraindicated in children below the age of five.

Choice of Two Baha Systems



Baha Attract System

A magnetic connection attaches the sound processor to the implant



Baha Connect System

A small abutment attaches the sound processor to the implant



5 Reasons to Transition to the Baha Implant System



1. **Has proven long-term reliability** and provides better sound transmission than compared to non-surgical solutions.^{3,4}
2. **Provides more discretion** than the Softband for older children and may give them an increased level of confidence with their peers.
3. **The implant system and procedure are covered by many insurance plans** including Medicare and MediCal/CCS.**
4. **Offers a choice of sound processor power options** to meet your child's hearing needs today and in the future.
5. **Includes a new Baha 5 Sound Processor** so your child can continue to use their current sound processor as a back-up device.



How can you support people and families in your community?

Hear now. And always



Cochlear®

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