

# **Learning Objectives**



#### Participants will be able to

- List 5 separate pediatricfriendly features of the Nucleus<sup>®</sup> family of products and services.
- Describe Cochlear's True Wireless™ accessories and how they can interface with FM and loop systems.
- 3. Explain the pediatric indication for and benefits of SmartSound® iQ and how it can be customized to suit the needs of schoolage children.



### Agenda



- · Indications for implantation
- Implant features
- Sound processor choices
- · Wireless accessories
- Monitoring sound processor functions
- Cochlear™ Services
- Questions and feedback



CAM-MKTP-597

# Our Mission at Cochlear



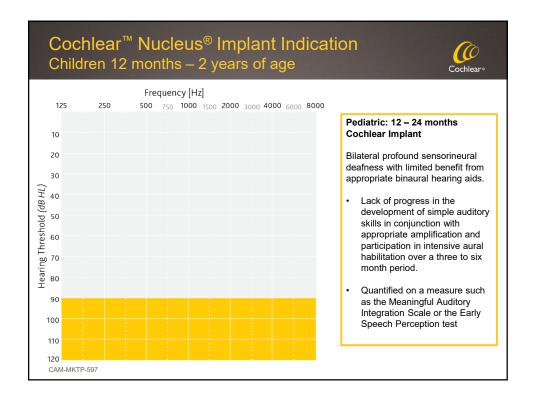


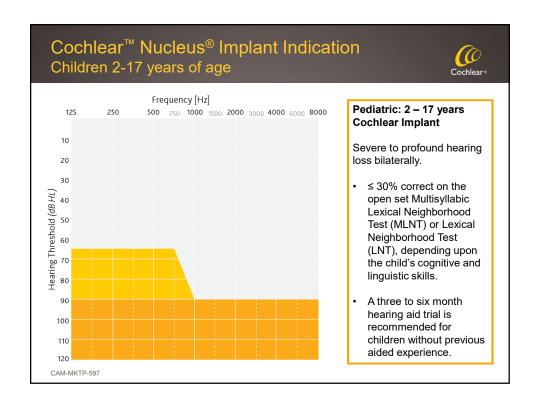
# We help people hear and be heard.

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

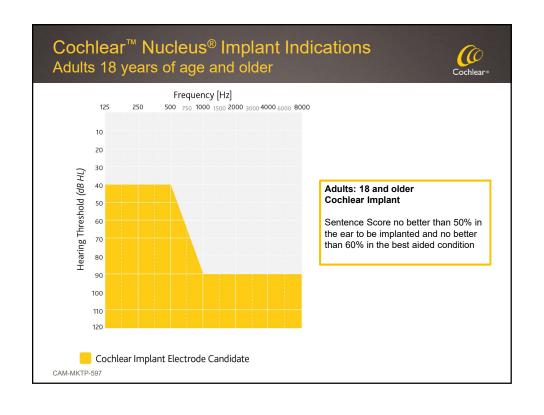
We **transform** the way people understand and treat hearing loss.

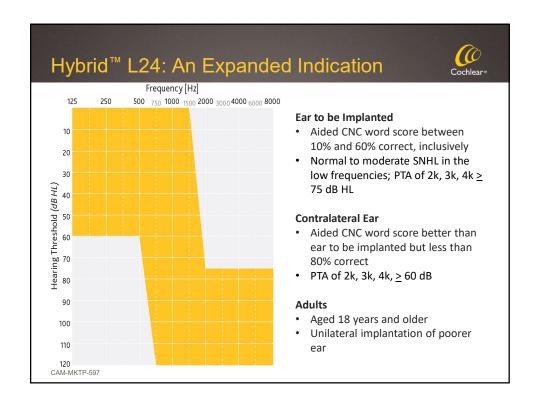
We innovate and bring to market a range of implantable hearing solutions that deliver a lifetime of hearing outcomes.

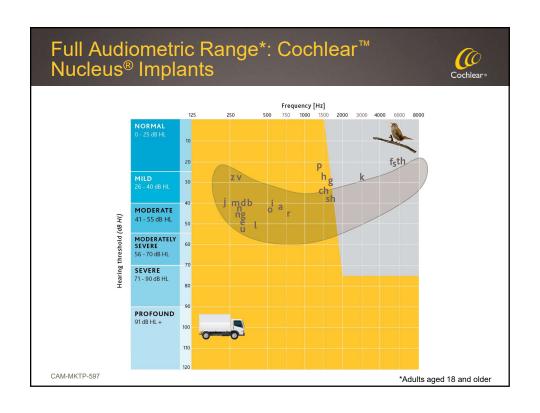


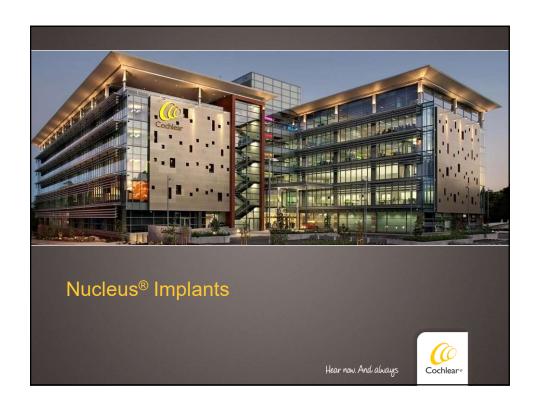


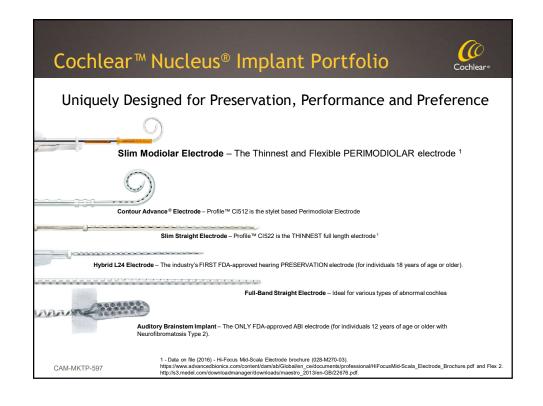


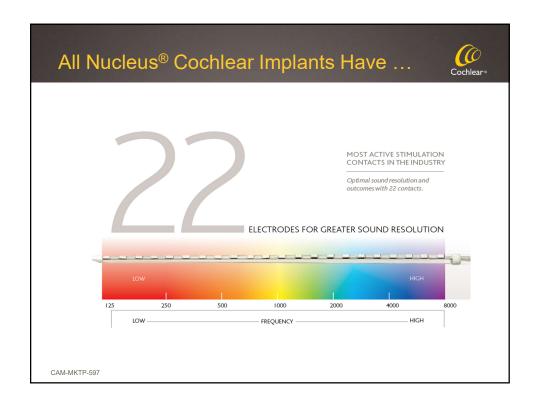


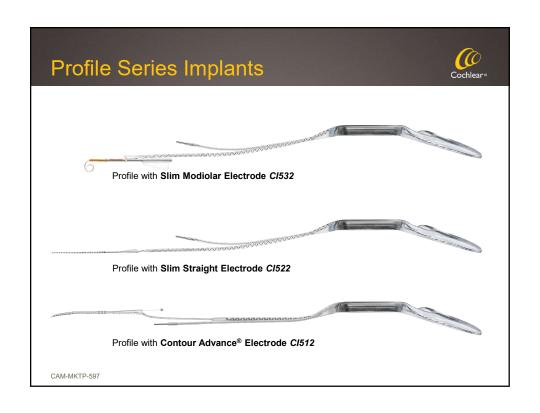


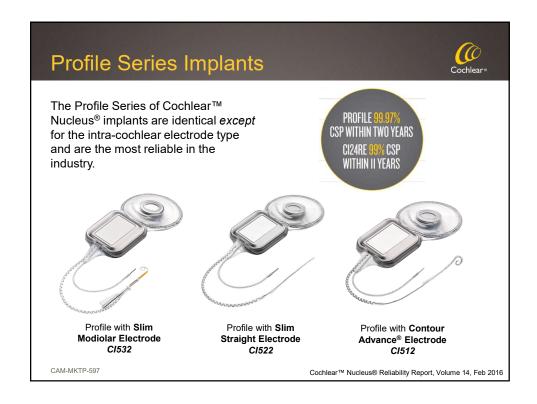


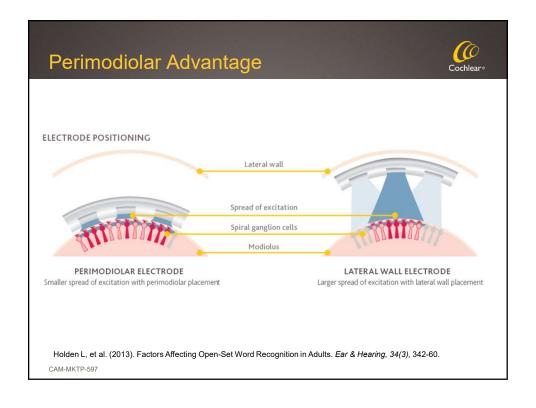




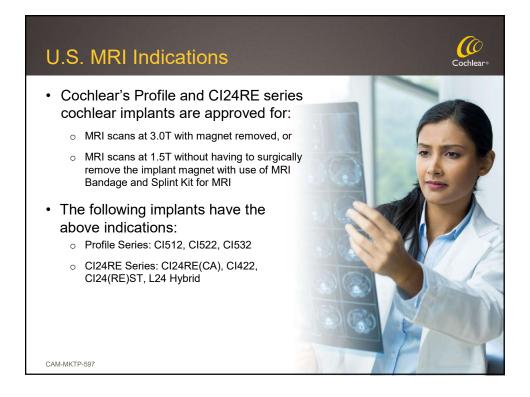


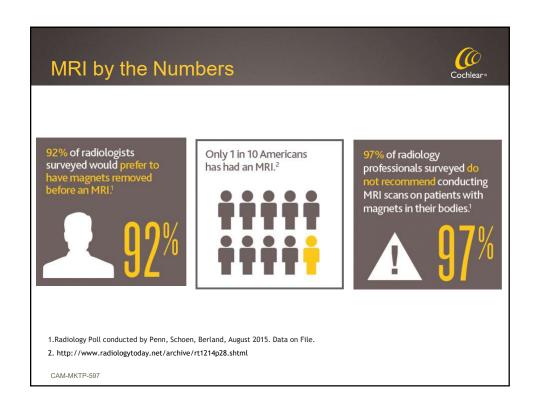


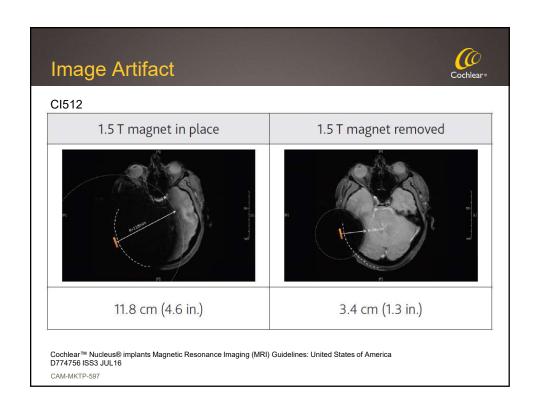


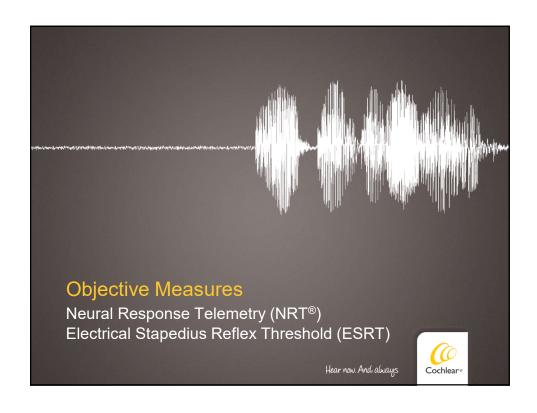


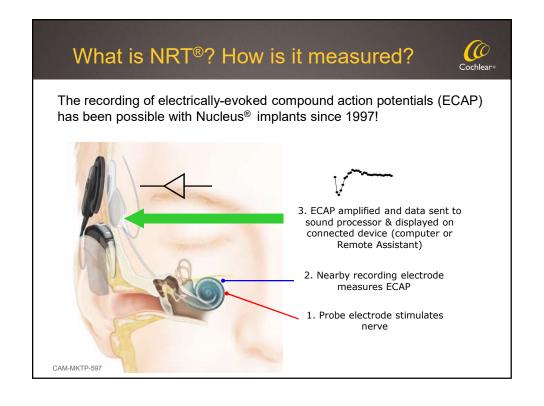
# Perimodiolar Advantage Focused stimulation close to spiral ganglion cells 1 Narrower spread of excitation<sup>1</sup> Improved hearing performance <sup>2,3</sup> Spornitz, "Anatomie und Physiologie" Springer 1996 Image courtesy of Bionic Ear Institute, Melbourne TB5, section 8, 10 Jun 2002 <sup>1</sup> Cohen, L., et al. Spatial spread of neural excitation in cochiaer implant recipients: comparison of improved ECAP method and psychophysical forward masking (2003). <sup>2</sup> Holden L., Finley C., Firszt J., Holden T., Brenner C., Potts L., Gotter B., Vanderhord S., Misnagel K. Heydebran G., Sinner M., Factors Affecting Open-Set Word Recognition in Adults With Cochiear implants. Ear and Hearing, 2013, 34(3), p. 342-260. <sup>3</sup> Section 1. Section 1











### Auto NRT®



- Auto NRT® is an easy way to collect NRT data automatically\*
- · Can be done in the OR via CR220 Intraoperative Remote Assistant or via Custom Sound®
- Can be done post-operatively in the clinic via Custom Sound<sup>®</sup>





- Please see Cochlear's Audiology Online courses on NRT and the CR220 for more information
  - Courses 27306, 27307, and 28058

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\*AutoNRT® is only available for CI24 (RE) and newer implants

### Post-operative uses of NRT:

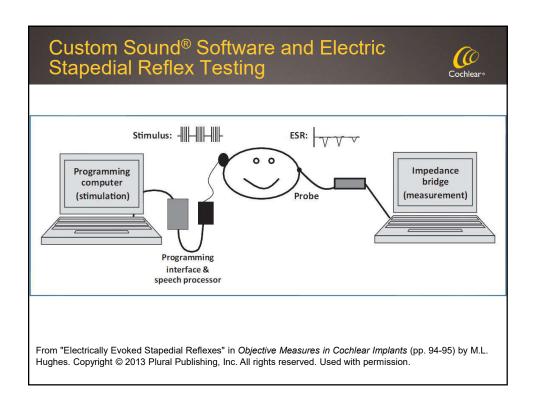


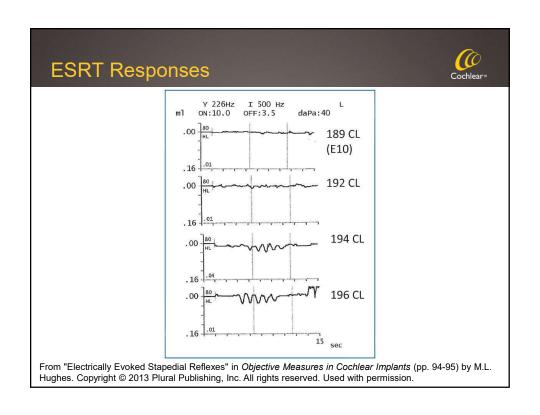
- NRT levels are correlated with T and C levels
  - Combining NRT and behavioral information allows for a stronger correlation1
  - The "profile" of the NRT can be used to generate a "scaled threshold profile" of the T and C levels with the absolute T- and C-levels determined by behavioral measures2
- NRT can be present post-operatively even if not present intraoperatively<sup>3</sup>
- NRT thresholds will tend to decrease over the first few months of device use then stabilize4
  - 1- Brown et al (2000) The relationship between EAP and EABR thresholds and levels used to program the nucleus
  - 1- Brown et al. (2000) The relationship between EAP and EABR thresholds and levels used to program the nucleus 24 speech processor; data from adults. Ear Hear, 21(2):151-63.

    2 Botros & Psarros (2010) Neural response telemetry reconsidered: The relevance of ECAP threshold profiles and scaled profiles to cochlear implant fitting. Ear Hear, 31(3):367-79.

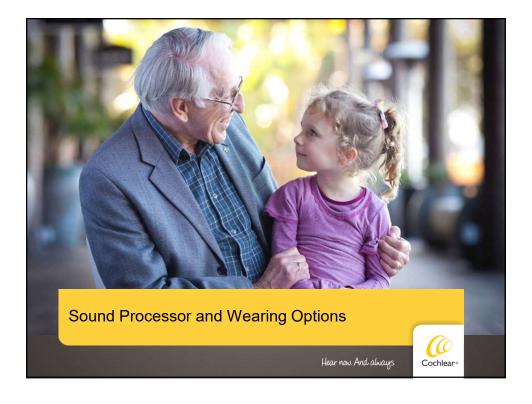
    3 Moura et al. (2014) Longitudinal Analysis of the Absence of Intraoperative Neural Response Telemetry in Children using Cochlear Implants. Int Arch Otorhinolaryngol, 18(4):362-8.

  - 4 Molisz et al (2015) Postimplantation changes of electrophysiological paramters in patients with cochlear implants. Audiol Neurootol, 20(4):222-8.









### Nucleus® 6 Sound Processors





#### Nucleus® 6 (CP910/920)

# Our smartest behind-the-ear sound processor yet!

- First automatic scene classifier (SmartSound iQ)
- First data logging and analysis
- First true wireless connectivity
- First Aqua+ swimsuit for your processor
- First Cochlear™ Hybrid™ Hearing\* in every N6



#### Kanso® (CP950)

# The newest smart, simple and discreet sound processor!

- Smallest and lightest off-the-ear (OTE) processor
- Only OTE processor with the same hearing performance as BTE\*\*
- Simple to use with one button and no cables

\*The Acoustic Component should only be used when behavioral audiometric thresholds can be obtained and the recipient can provide feedback regarding sound quality Hybrid L24 implant is approved for use in adults ages 18 and older

\*\* From a speaker at 0 degrees azimuth

# Hybrid<sup>™</sup> Hearing Solution



#### Every Nucleus® 6 Sound Processor is "Hybrid-Ready" for any electrode\*

- Easily configured in a few simple steps
- · Instant fit disposable domes or customized earmolds
- · Integrated programming to optimize the acoustic output

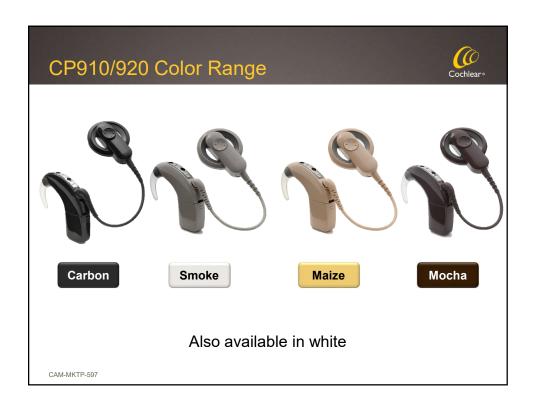


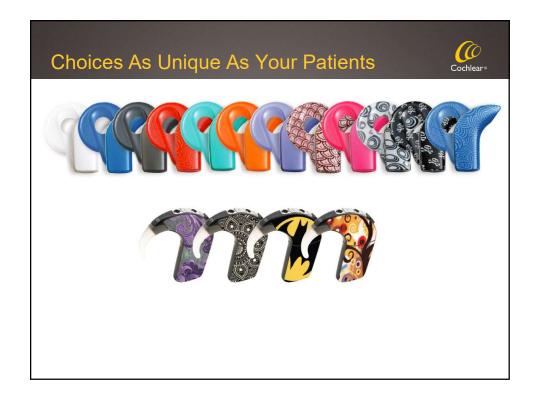
#### NUCLEUS 6 SOUND PROCESOR

\*The Acoustic Component should only be used when behavioral audiometric thresholds can be obtained and the recipient can provide feedback regarding sound quality Hybrid L24 implant is approved for use in adults ages 18 and older



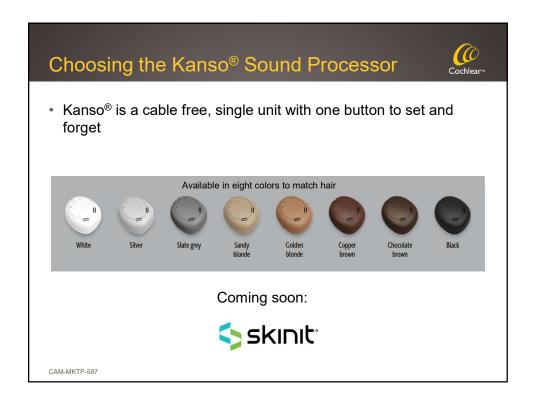


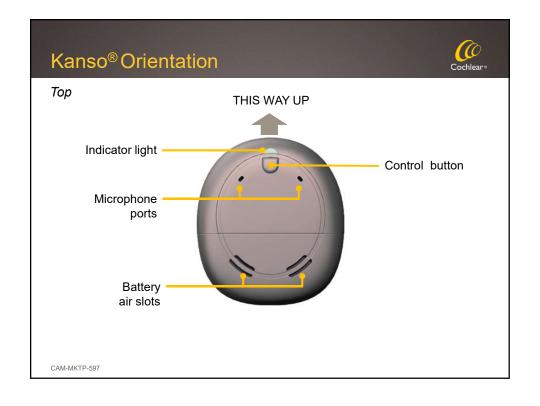


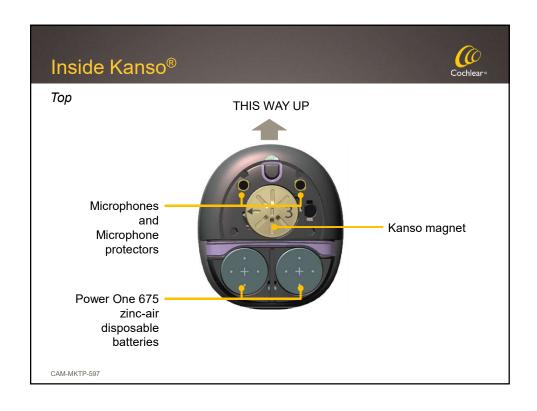


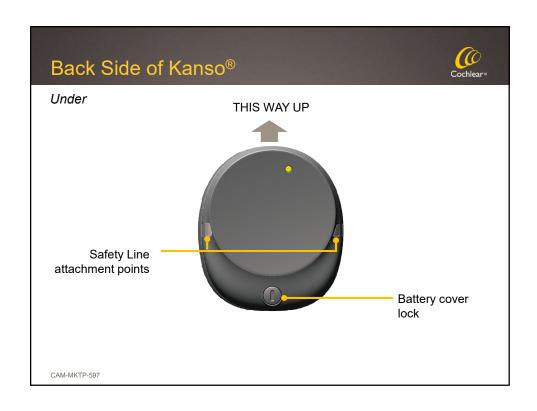








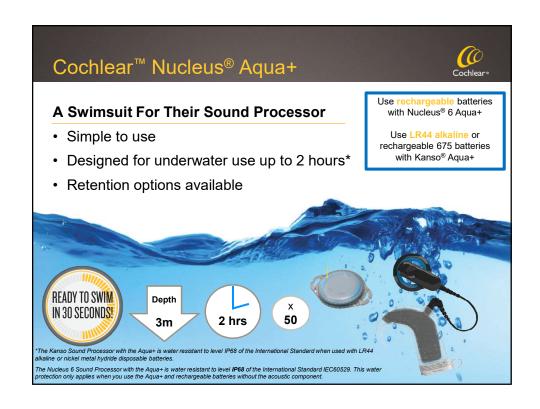






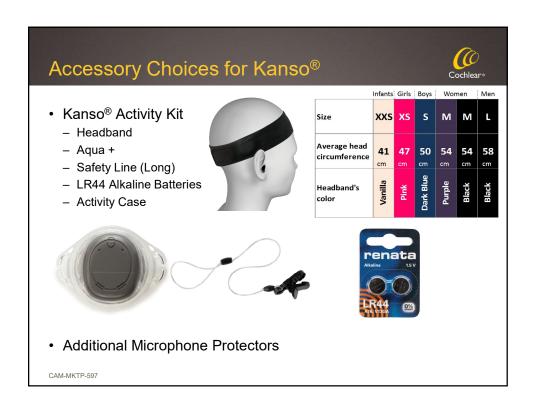






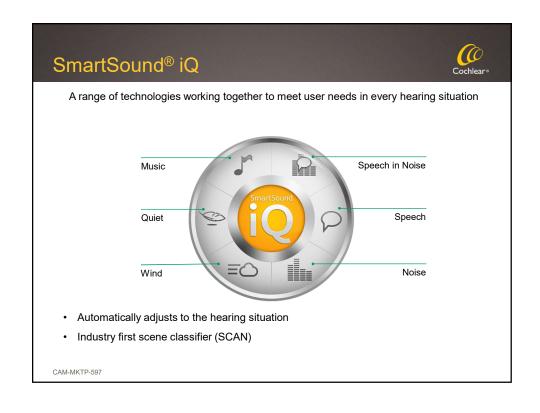


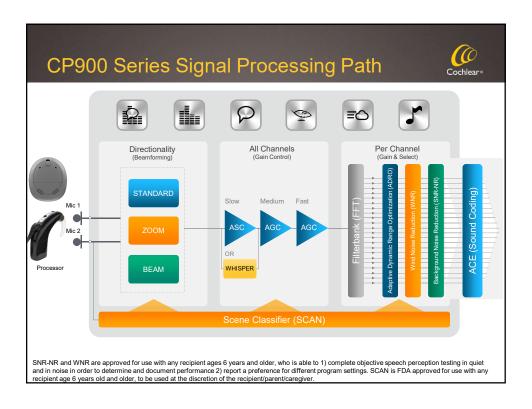










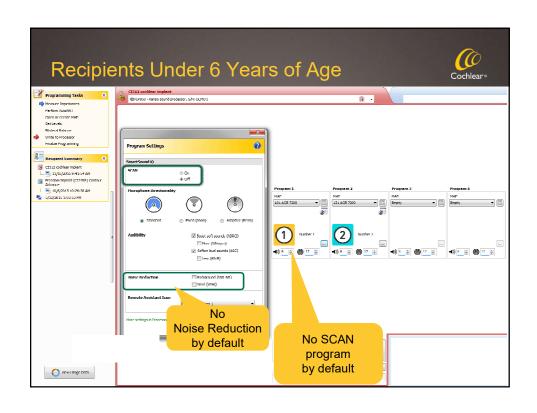


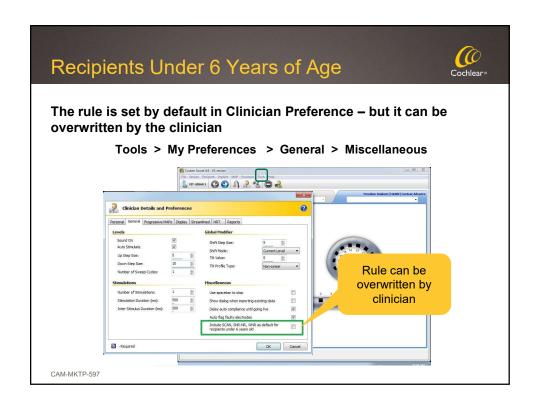
### SmartSound® iQ FDA Approved for Children

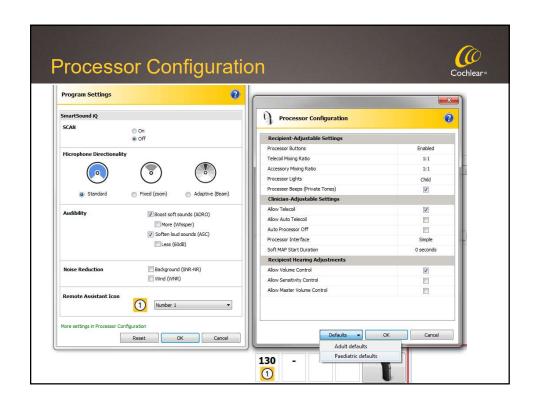


- SNR-NR and WNR are approved for use with any recipient age 6 years or older, who is able to:
  - 1) complete objective speech perception testing in quiet and in noise in order to determine and document performance
  - 2) report a preference for different program settings
- SCAN is FDA approved for use with any recipient age 6 years and older, to be used at the discretion of the recipient/parent/caregiver

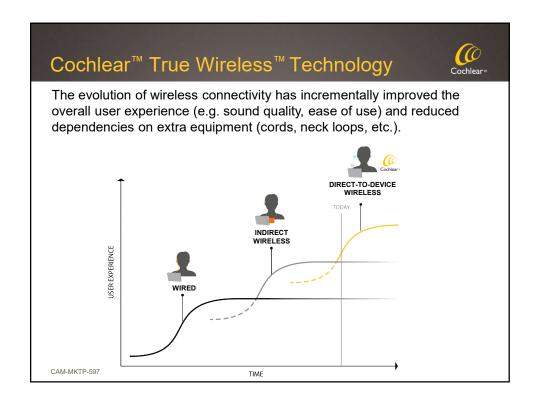
First major breakthrough in input processing to receive FDA approval for use in children in more than ten years





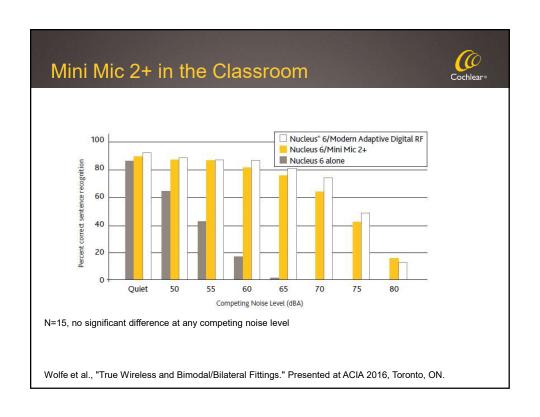


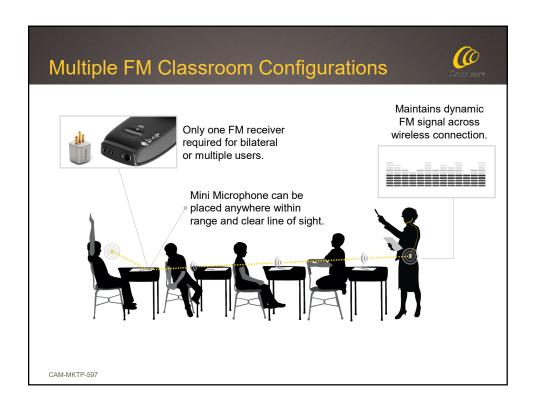






#### Mini Microphone 2+ Optimized for both one-to-one and group communication. FM compatibility **Built-in Telecoil** the range1 Line-in connector Range up to 82 feet (25 meters)\* Up to 11 hours battery life Directional microphones connectivity Table Mic Mode Drop detection mute feature Volume lock and volume indicators Battery status indicator longer battery life1 Swivel clip Compared to Cochlear Wireless Mini Microphone Clear line of sight CAM-MKTP-597





### **Hands-free Connection**



Cochlear<sup>™</sup> True Wireless<sup>™</sup> Phone Clip

- Bluetooth®-enabled hands-free streaming directly from the phone
- Place and receive calls and adjust volume at the touch of a button
- · Listen to music, videos and GPS wirelessly
- Stereo sound when paired bilaterally with two sound processors, or bimodally with one sound processor and one GN ReSound hearing aid



### Cochlear<sup>™</sup> True Wireless<sup>™</sup> TV Streamer



- Designed to provide clearer stereo sound directly from the TV
- Designed to enable hearing both the TV and the conversation in the room without needing to turn up the TV volume
- Long range of up to 23 feet allows the freedom to move around while listening





Movie night with family

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# Easy to Pair, Easier to Use



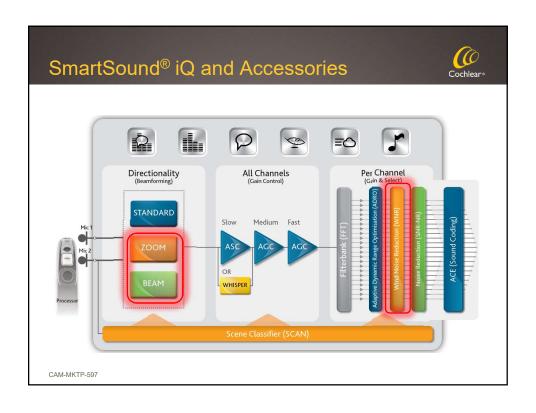
- Simply press the pairing button, then power up the sound processor.
- Once paired, use the sound processor button, the CR210 Remote Control, or the CR230 Remote Assistant to start and stop streaming from the Mini Mic 2/2+ or TV Streamer
  - Phone Clip is "automatic"
- Should the connection break if outside the device's maximum range, for example connection is automatically restored when back in range.\*

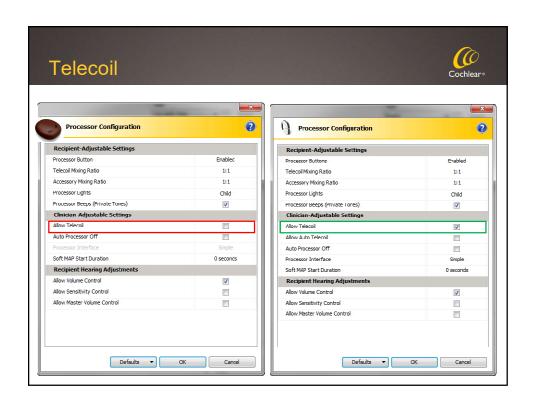


\*Reconnection occurs if back in range within 5 minutes.













#### ReSound UP Smart







#### **ReSound UP Smart benefits**

- ReSound UP Smart delivers superior access to speech and language at every stage of a child's development
- All the accessory options are available and compatible with this line. The Multi Mic has great applications for school, home and recreational use.
- With ReSound Up Smart hearing aids, children and teens can use one of the world's smartest devices to help them connect, communicate, and play on equal terms with their classmates, friends, and families

#### **ReSound UP Smart offering**

- 3 year Warranty for Repairs, Loss and Damage
- Waived L&D Deductible
- Expedited Repairs
- Care Kit
- · Retention item Choice of 3 (Clip, Bend or Stick and Go)
- Free Multi-Mic bundling for each child also on Medicaid State contracts

ReSound GN

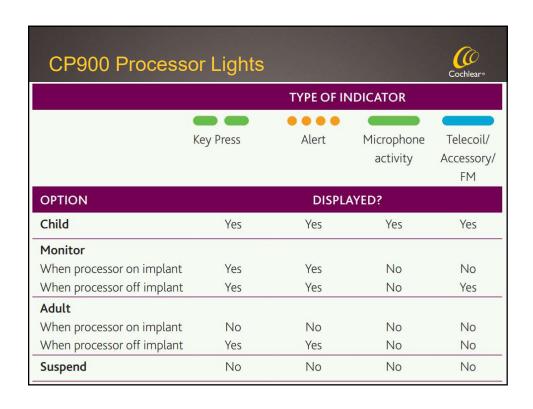


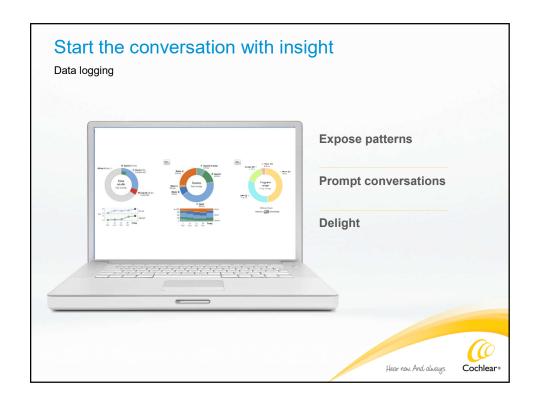
**GN** Making Life Sound Better

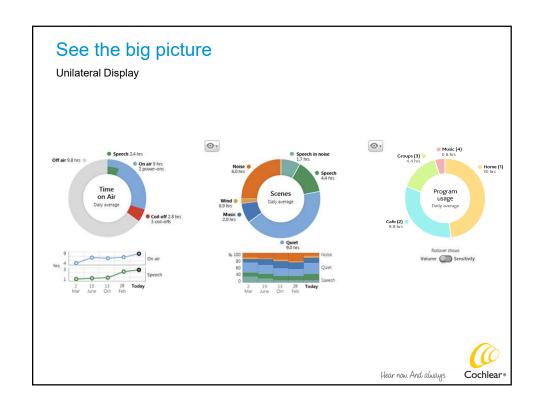


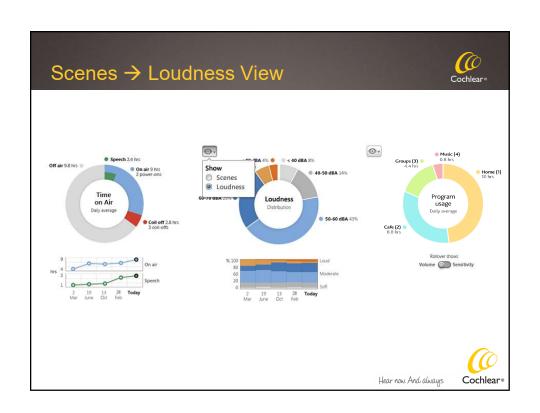


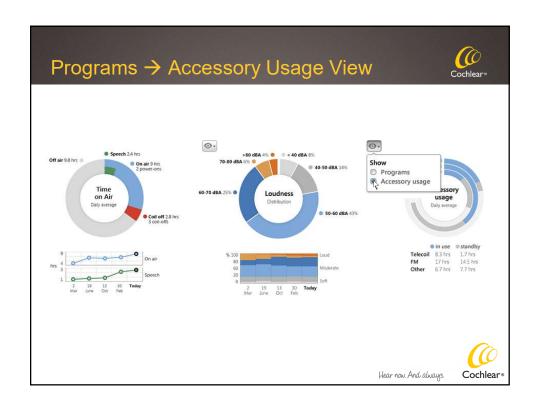


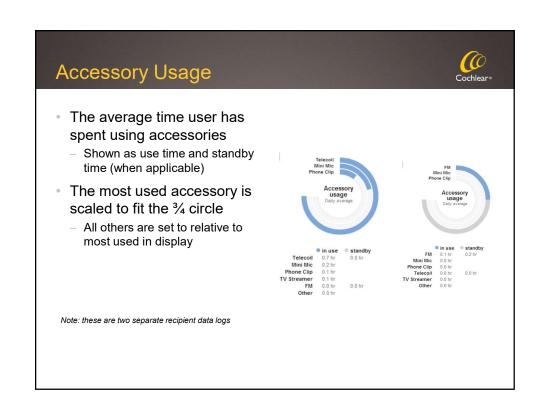


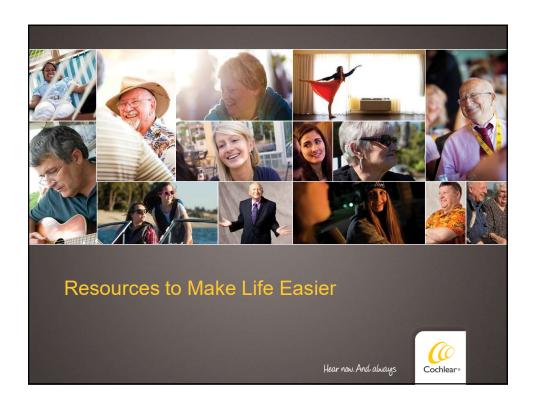




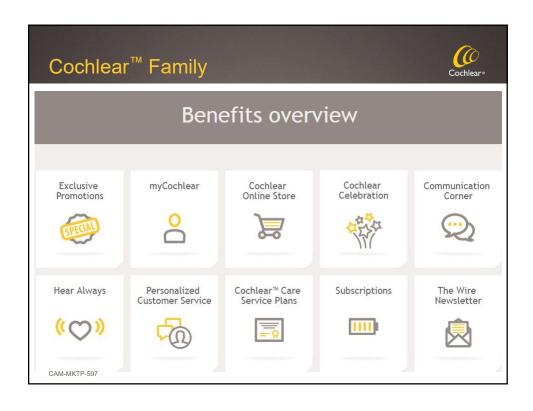














# Young Children and Parents



#### **Sound Foundations for Babies**

- Provides guidance in developing children's spoken language through listening
- Supports parents in the first 12 months following their child's fitting with a hearing solution
- Activities are designed to fit easily into everyday life as well as provide the knowledge and understanding of the theory behind the goals identified for each week



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### Young Children and Parents



#### **Sound Foundations for Toddlers**

- Builds on Sound Foundation for Babies
- Supports parents through the second year after your child is fit with a hearing solution
- 40 weekly programs in the areas of audition, receptive language, expressive language and speech as well as a song and storybook
- Hundreds of games, activities and ideas to support parents in working with their child's spoken language



Available in English and Spanish

# School Aged Children



#### **LEAPing on with Language**

- LEAP Listen Expand Achieve Promote!
- Great resource for parents and classroom teachers
- Practical strategies that aim to accelerate child's spoken language learning beyond simple sentences to more complex and abstract language
- Develop communicative independence and self-esteem



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## Teens and Beyond



#### **Telephone with Confidence**

- Online training tool is designed to help gain confidence communicating on the phone
- Practice using the phone with this free service which consists of a toll-free number and rotating word lists and phrases that allow you to follow along online
- Program can be used anywhere you have access to a telephone, can be used with any hearing solution, and provides the opportunity to dramatically increase telephone proficiency
- Use it to test out different telephone options such as land-lines, cell phones or phone accessories



# Cochlear<sup>™</sup> Link



# WHAT DOES COCHLEAR LINK PROVIDE?

### LINK PROVIDE?

#### **AUTO-REGISTRATION**

Automatic registration of patient equipment, directly from Custom Sound® with no need to fill in forms or re-enter patient data.

#### **ENHANCED SUPPORT**

Enhanced access to Hear Always without MAP requests.

Focus on patients. Leave the registrations and servicing to Cochlear!

# HOW ARE RECORDS PROTECTED?

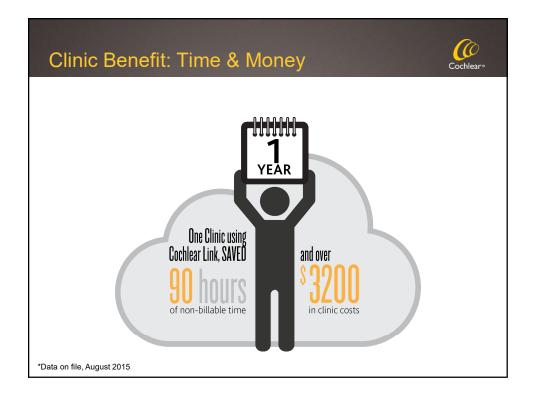
#### **SECURITY**

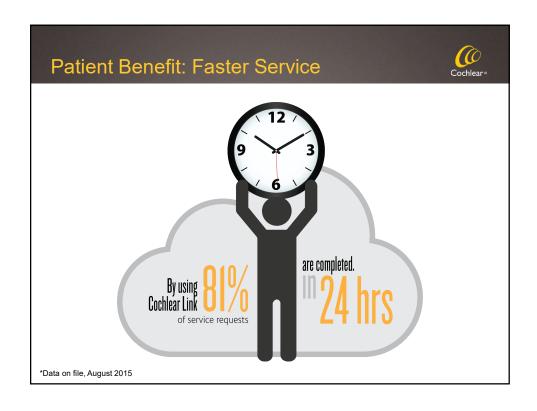
Data transferred via Cochlear Link is encrypted.

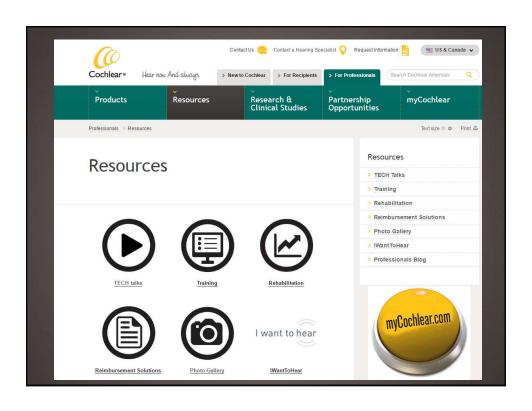
#### **PRIVACY**

Cochlear Link is HIPAA compliant.

**CAM-MKTP-597** Exclusive advantage of the Cochlear Nucleus® System!







### Summary of Pediatric-friendly Features



- Electrode portfolio designed for preservation of delicate cochlear structures
- · Low profile receiver stimulator with industry's best reliability
- · Removable magnet for MRI; preferred by radiologists
- Easy-to-implement objective measures to assist with programming
- Choice of BTE or OTE processor
- True Wireless™ and ReSound Smart Hearing Alliance
- · Monitoring tools including powerful data logging
- · Resources to make caregivers' and clinicians' lives easier!

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### Questions? And Contacts...



### Any Questions on today's course?

dcatlett@cochlear.com

# What content would you like to see Cochlear offer on Audiology Online?

Please type your suggestions into the comments field now, or send to: <a href="mailto:sashburn-reed@cochlear.com">sashburn-reed@cochlear.com</a>

### References



- Brown et al (2000) The relationship between EAP and EABR thresholds and levels used to program the Nucleus 24 speech processor: data from adults. Ear & Hearing, 21(2):151-63.
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- Molisz et al (2015) Postimplantation changes of electrophysiological parameters in patients with cochlear implants. Audiology and Neurootology, 20(4), 222-8.
- Radiologyinfo or
- · Radiology Poll conducted by Penn, Schoen, Berland, August 2015. Data on File.
- http://www.radiologytoday.net/archive/rt1214p28.shtml
- Wolfe et al., "True Wireless and Bimodal/Bilateral Fittings." Presented at ACIA 2016, Toronto, Of

