Diana M. Laurnagaray
Degree in Audiology and Speech Pathology.

Researcher associate and consultant for the Child Amplification Laboratory, National Centre for Audiology at the University Western Ontario, London, Canada.
Joint researches with the university, dissemination, seminars and conferences in many countries like the USA, Spain, Colombia, Canada, Brazil and Argentina. Specialization in child diagnostic evaluation, pediatric intervention and DSL I/O Method.
Audiology Masters Teacher at Alicante University.
Post Graduate Scholl of Pediatric Audiology Teacher at Asara.
Director for the Early Detection and Intervention Program at the Private Hospital South of Bahia Blanca.
Consultant Audiologist at the Municipal Hospital in the city of Bahia Blanca.
Member of the American Academy of Audiology since 1998.
Member of the Argentina Association of Audiology.

Small ears, a great challenge and responsibility

Universal programs and advances in early detection and intervention of childhood hearing loss, lead us to treat children each time younger and their families.
Children born with hearing loss have different needs than those with acquired hearing loss after the development of language. The pediatric population is different in many ways from the adults, and these characteristics should be taken into account in order to ensure a proper fit with amplification.
At present the adaptation of amplification is early and during critical periods of language development and plasticity of the nervous system. This way we can ensure the most accurate proper access to the sounds of language through providing amplification to optimize the child hearing.
Practices based on scientific evidence guarantee us the best strategy to achieve it, the steps of the fitting amplification process.

Friday, October 12th
8:30 – 8:45
Conference Opening and Introduction of the Opening Address
Diana Laurnagaray (Argentina)
Karen Gordon is an Associate Professor in the Department of Otolaryngology and a Graduate Faculty Member in the Institute of Medical Science at the University of Toronto. She works at the Hospital for Sick Children in Toronto, Ontario, Canada, as a Scientist in the Research Institute and Director of Research in Archie’s Cochlear Implant Laboratory. Karen received her Ph.D. (2005) and B.Sc (1991) at the University of Toronto and her M.A. in Audiology (1993) at Northwestern University. She is a registered audiologist (reg. CASLPO, CCC-A), a Fellow of the American Academy of Audiology (AAA), and a member of the Association for Research in Otolaryngology (ARO) and the Society of Ear, Nose and Throat Advances in Children (SENTAC). Karen’s research focuses on auditory development in children who are deaf and use cochlear implants. Her early work examined the role of an unilateral implant to promote changes in the auditory nerve, brainstem, thalamus and cortex and she is presently interested in the effects of bilateral cochlear implants in these areas. Karen has been awarded grant funding for her work on binaural auditory development in children receiving bilateral cochlear implants from both the Canadian Institutes for Health Research and the SickKids Foundation.

Plasticity in the Developing Auditory System

During development, multiple connections between neurons are made and then lost in order to help the young survive and mature. In the absence of hearing, the immature brain reorganizes to make use of other available sensory inputs including vision. These changes are advantageous if hearing is lost to the child indefinitely but become impediments when auditory function is restored through an auditory prosthesis such as a cochlear implant. To restrict abnormal reorganization during deafness, we must limit the time spent without sound by restoring hearing and auditory development. Our recent investigations indicate that the restoration of hearing in children must occur bilaterally. If the immature auditory system remains deprived on one side, the auditory pathways reorganize, leaving the system without the ability to detect important binaural cues. These changes appear to occur fairly quickly after unilateral stimulation. Given evidence of sensitive periods for both unilateral and bilateral deafness, it is important to identify hearing loss in children as soon after it occurs as possible and then to provide hearing to the impaired ear or ears without significant delay. What prostheses we should be providing and how to best fit them in children remain areas for study.

The importance of bilateral implantation in children who are profoundly deaf in both ears.

The bilateral auditory pathways are able to detect very subtle differences in timing and level between the ears in order to localize sound. Without these cues, children with a severe to profound hearing loss in one ear find it hard to hear one speaker amidst many and this often compromises academic development. We have found the same difficulties in children using one cochlear implant and consequently aimed to establish binaural hearing in children who are deaf in both ears by providing bilateral cochlear implants. Having now recruited >300 children into a study examining the effects of bilateral implantation, we have shown that unilateral cochlear implantation strengths pathways from the stimulated side and leaves pathways from the opposite ear relatively immature.
These asymmetries occur along the bilateral auditory pathways both at the level of the brainstem and cortex, and persist when unilateral implant use exceeds 2 years. Providing bilateral cochlear implants with more limited inter-implant delays protects the auditory system from these changes, resulting in more symmetric development of the binaural pathways and improved use of binaural cues. Simultaneous implantation of bilateral devices is more cost-effective and preferred by parents/family compared to 2 sequential procedures in a narrow time frame. This has thus become our standard of care for children with stable and profound sensory hearing loss bilaterally.

**Friday, October 12th**

8:45 – 9:30  
Conference Opening Address:  
Karen Gordon (Canada)  
Plasticity of the Auditory System
Validation: how do we know our intervention strategies with hearing impaired children and their families are adequate?

Quality evaluation in hearing health services have to consider outcome measurements in long term periods. However, in programs involving low income children, hearing aid use and commitment to therapeutic process are still a challenge. There are different factors contributing to prognosis for oral language development in hearing impaired children, and hearing aid or cochlear implant adequate fitting is one of them. Families need immediate orientation considering critical period and neuroplasticity, however understanding those concepts and fine tuning with their expectations cannot be taken for granted when clinicians and families do not share common cultural background.

The Center for hearing in Children- CeAC – Derdic, in Brasil has been making an effort in identifying variables that can be crucial in hearing and language development in children registered there. One of our projects established relationship among variables related to age of hearing aid fitting, degree of hearing loss, communicative skills, family involvement and expectations. Thirty five babies with moderate to profound hearing loss returned to the center for evaluation within a period of 24 months. All subjects included in the study were fitted with hearing aids before 18 months of age. Cluster analysis considering auditory and language skills resulted in four distinct groups. Systematic use of amplification was the only variable that was significant related to auditory and language outcomes. In spite of poor performance of their children, most parents were satisfied with child development, leading us to consider that low expectations regarding language development could explain non systematic use of amplification.

We will discuss specific procedures implemented in the initial stages of intervention that have been determining later outcome in hearing and language skills. Monitoring hearing aid datalogging, pictorial handouts, explicit evidence of auditory responses and parental counseling groups guided towards expecta-
tions are some of the strategies that contribute to greater adhesion to amplification and intervention program.
Essential Components of the Pediatric Hearing Instrument Fitting Process

We now have a wealth of knowledge regarding both the acoustic and electroacoustic factors that influence the accuracy of hearing instrument fitting in infants and young children. Consequently the important variables that influence the accuracy of hearing instrument fitting can be accounted for and a significant reduction in practice variation across clinicians can be achieved through the careful application of evidence-based protocols in pediatric hearing instrument fitting. This presentation will provide a summary of the essential components of a fitting protocol that have been developed specifically for pediatric applications.

Friday, October 12th

8:45 – 9:30 I. Identification, Etiology and Audiologic Diagnosis: Getting it Right from the Start
Session Chair: Richard Seewald (Canada)
Session Chairs: Diana Laurnagaray (Argentina) and Richard Seewald (Canada)

15:40 – 15:45 Session Introduction

15:45 – 16:30
Richard Seewald (Canada), Diana Laurnagaray (Argentina),
Talita Donini (Brazil) and Marilisa Zavagli (Brazil)
Rationale for and Demonstration of an Approach to Pediatric Hearing Instrument Fitting in 2012
Martyn Hyde, PhD
Martyn is Professor in the Departments of Otolaryngology and Speech-Language Pathology at the University of Toronto, Canada, Associate Director of the Hearing, Balance & Speech Department at Mount Sinai Hospital, Toronto, Director of Research and Development and of the Audiology Laboratory in that Department. He was involved in the creation of the Ontario Infant Hearing Program (IHP) in 2001 and is an external consultant to the Early Years' Programs of the Ontario Ministry of Children & Youth Services and the Early Hearing Program of the Provincial Health Services Agency in British Columbia, Canada. His main current interests include program evaluation, continuous quality improvement and the nature and uses of scientific evidence. He is Vice-Chair of the Maternal-Child Screening Committee of the Better Outcomes Registry & Network (BORN) of the Ontario Ministry of Health, which addresses all diseases for which mothers and newborns are screened or might be screened. He now has an interest in molecular testing in relation to programs for childhood hearing disorders.

Development and Implementation of Infant Hearing and Communication Development Programs

A Program worthy of the name is a system of infrastructure and actions or processes that serves a stated vision, that seeks to achieve defined outcome goals and specific, measurable objectives, usually operating with clear core values and characteristics. Clinical service programs in our area of interest can be viewed usefully as living, dynamic organisms that pass inevitably through the stages of birth, childhood and maturity, continuously subject to an array of internal and external influences that either facilitate or obstruct successful development. The basic challenge is to manipulate the ‘genes’ and the ‘environment’ of the program to optimize its live birth, quality of life and long-term productivity. In this talk, some of the critical factors that affect each of the life stages of a program are identified and illustrated. Some steps that can prevent or minimize adverse effects of contextual or operational variables will be proposed. Examples of such variables include poorly developed rationale, lack of adaptation to health systems context and practicable timelines, resource constraints, governance and operational control, internal and external communications, inappropriate variations in clinical practices, ineffective linkage among important program stages, misconception of program goals & objectives, and lack of attention to crucial aspects of service performance and to both short-term and long-term outcomes. Healthcare programs depend ultimately on human actions, and suc-
cess is governed less by technology than by human attitudes, capacities and behaviours. The truth of this will be explained with emphasis on understanding the real nature of service ‘quality’ and the power of Continuous Quality Improvement as an indispensable paradigm in every phase of program life.

**Diagnostic Protocols for Infants**

Diagnostic assessment of young infants must take into careful account the range of target disorders for the program, the properties of screening tests used, the various target populations who will be assessed, the clinical purpose and desired outcomes of assessment, as well as the characteristics of individual infants. The merits and limitations of various assessment tools currently available will be reviewed briefly, with emphasis on OAE, ABR and ASSR techniques. These and other tools must be organized into rational test strategies and must be utilized with specific tactics that address common challenges and optimize test accuracy. The need for, characteristics of, and benefits arising from well-designed test protocols will be outlined, as will some issues of non-adherence to such protocols. Persistent clinical difficulties, common procedural or interpretive errors and limitations of available scientific evidence will be discussed, as well as their implications for provider training and program quality improvement efforts. Lastly, the ANSD challenge, telehealth applications and new approaches to detection of non-congenital hearing loss will be outlined.

**Friday, October 12th**

9:30 – 10:15
Martyn Hyde (Canada)
Development and Implementation of Infant Hearing and Communication Development Programs
**Etiology of Hearing Loss**

The recognition of the hearing loss cause is one of the central points of diagnosis and treatment of it, also its timing, its evolving character or not, the degree of damage it causes and the type of hearing loss that generates, guide us about the treatment: equipment and corresponding habilitation, with the ultimate goal, that is the language development of that child.

Traditionally classified as genetic or acquired, congenital pre or postnatal, the etiology of hearing loss has had evident changes in the last years, regarding their understanding and its prevention, the molecular genetics has discovered a huge diagnosis field, current prognostic and future therapeutic, and also the infectious processes through prevention and vaccination have been positive changes, especially for our area.

Furthermore multifactorial causes related to premature baby, open up a complex and long chapter for following those children called "high risk hearing," the association of different pathologies that can affect hearing peripherally but also involve other aspects terms related to maturity and language development require specific assessment.

The knowledge of hearing loss cause, plus the early diagnosis and early habilitation, are the basis of an adequate therapy.

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**Friday, October 12th**

10:45 – 11:20
Dr. Leopoldo Cordero (Argentina)
Etiology of Pediatric Hearing Impairment
Dr. Daniel Orfila (MD)
Otology and Neurotology Specialist
Team member of FLENI Neurotology, Buenos Aires, Argentina
Director of CI-MS (Multicenter Cochlear Implants-Team)
Medical Consultant ENT service in Digenesis Hospital Italiano
Hearing.
Director of the Congress from the Federation of ENT Societies Argentina (FASO)
Assistant Professor of “Therapeutic Audiology” for the Degree in Speech and Audiology Pathology at University of Salvador
Professor of ENT specialist career at UBA

"Sensorineural hearing loss by genetic origin. What we investigate in daily practice"

From each 1 thousand live newborns, 1 or 2 have some degree of sensorineural hearing loss severe or profound with early manifestation. And it’s also estimated that 5 per thousand of children that present any degree of delayed onset hearing loss.
Beyond all the people most affected, about 50% would be from genetic causes.
The purpose of this presentation is to update the responsible genes for the hearing loss more prevalent and what we can detect in Argentina regarding daily clinic.
It will be reviewed various causes of nonsyndromic HSN generated by altering of genes: connexin 26 and 30, OTOF gene and Pejvakina responsible for two different types of auditory neuropathy or ANSD, Tecta gene, mitochondrial genes and genes EYA 1 - EA 4.
The aim is to emphasize when we have to think about them and their audiological standard as well as what other studies should be requested for its diagnosis and differential diagnoses.

Friday, October 12th
11:20 – 11:55
Dr. Daniel Orfila (Argentina)
Genetics of Hearing Impairment
Martyn Hyde, PhD
Martyn is Professor in the Departments of Otolaryngology and Speech-Language Pathology at the University of Toronto, Canada, Associate Director of the Hearing, Balance & Speech Department at Mount Sinai Hospital, Toronto, Director of Research and Development and of the Audiology Laboratory in that Department. He was involved in the creation of the Ontario Infant Hearing Program (IHP) in 2001 and is an external consultant to the Early Years' Programs of the Ontario Ministry of Children & Youth Services and the Early Hearing Program of the Provincial Health Services Agency in British Columbia, Canada. His main current interests include program evaluation, continuous quality improvement and the nature and uses of scientific evidence. He is Vice-Chair of the Maternal-Child Screening Committee of the Better Outcomes Registry & Network (BORN) of the Ontario Ministry of Health, which addresses all diseases for which mothers and newborns are screened or might be screened. He now has an interest in molecular testing in relation to programs for childhood hearing disorders.

Development and Implementation of Infant Hearing and Communication Development Programs
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**Friday, October 12th**

9:30 – 10:15  
Martyn Hyde (Canada)  
Development and Implementation of Infant Hearing and Communication Development Programs

11.55 – 12:30  
Martyn Hyde (Canada)  
Diagnostic Protocols for Infants

**Dr. Anne Marie Tharpe** is Professor and Chair, Department of Hearing and Speech Sciences Vanderbilt University School of Medicine, and Associate Director of the Vanderbilt Bill Wilkerson Center in Nashville, Tennessee. Dr.
Tharpe’s clinical and research interests are in the area of pediatric audiology. Specifically, she is interested in the impact of hearing loss on various aspects of child development, special needs of children with multiple disabilities, and the development and assessment of hearing in infants. Dr. Tharpe has published extensively in national and international professional journals, has published a number of books and book chapters, and has spoken to over 180 audiences around the world on pediatric audiology issues.

Behavioral Assessment in Infants
With advancements in physiologic assessment technologies over the last couple of decades, behavioral assessment techniques may be at risk for being under valued and under utilized. The clinical skills required for working with infants to obtain systematic, reliable behavioral data are also at risk of being lost in future audiologists who are not receiving the requisite training by their educational institutions. This session will remind us of the need for behavioral hearing data that can inform our management of infants and young children with hearing loss. Included will be a review of the basic tenets of infant behavioral testing.

Looking to the Past for a Glimpse Into our Future
Valuable information will be shared at this conference on how far we have come in the identification and management of childhood hearing loss. We have a lot to celebrate. But, what is on the horizon? Where should we set our sights next? Together we will consider our options and begin to set the course for the future of children with hearing loss and their families.

Friday, October 12th
14:00 – 14:35
Anne Marie Tharpe (USA)
Behavioral Testing of Infants and Young Children

Saturday, October 13th
15:15 – 15:55
Anne Marie Tharpe (USA)
Closing Address

Patricia Roush, AuD
Associate Professor
Director of Pediatric Audiology
Patricia Roush, AuD is Associate Professor in the Department of Otolaryngology, Head and Neck Surgery, University of North Carolina (UNC) School of Medicine and Director of Pediatric Audiology at UNC Hospitals where she specializes in working with newly identified infants and young children with hearing loss. Dr. Roush has published extensively in pediatric audiology and has lectured nationally and internationally on a variety of topics related to hearing loss in children. Her primary areas of interest are assessment of hearing in children, pediatric amplification and auditory neuropathy spectrum disorder.

Challenges in the Diagnosis of Hearing Loss in Infants: Case Examples

With the availability of newborn hearing screening and diagnostic tools that include auditory brainstem responses, otoacoustic emissions, and behavioral audiometry, pediatric audiologists have the capability of early, accurate diagnosis of hearing loss in infants and children. Even so, challenges remain that prevent all children from receiving accurate diagnosis in a timely manner. Through the use of case examples, this presentation will focus on problems that can occur in the diagnostic assessment process, and ways to avoid them.

Clinical Management of Children with Auditory Neuropathy Spectrum Disorder

Auditory neuropathy (AN) is a relatively recent clinical diagnosis characterized by abnormal auditory brainstem responses with evidence of normal outer hair cell function. Auditory neuropathy may account for up to 10% of newly diagnosed cases of sensorineural hearing loss. Children diagnosed with this disorder exhibit a wide range of functional hearing abilities. For audiologists and other professionals, infants with ANSD present special challenges for both diagnosis and management.

At the University of North Carolina at Chapel Hill over 200 children with ANSD are enrolled in a prospective longitudinal study designed to learn more about outcomes associated with the use of various hearing technologies including amplification, FM, and cochlear implants. This presentation, will describe the characteristics of children with ANSD and the interdisciplinary approach needed for diagnosis and management.

Friday, October 12th 14:35 – 15:10 Patricia Roush (USA) Potential Pitfalls in the Audiologic Diagnosis of Infants: Illustrative Case Examples
Saturday, October 13th 13:50 – 14:35 Patricia Roush (USA) Clinical Management of Children with ANSD
Angelina Martinez, PhD, is an Associate Professor of Audiology in the Department of Communication Sciences and Disorders and Hearing in Children Center at Catholic University of Sao Paulo (PUCSP). Past President of Brazilian Academy of Audiology. Also she is the President of non-profit and non-governmental organization: Association of Hearing Impaired Children (APADAS).

Clinical Outcomes from a Modern Pediatric Hearing Aid Fitting Laboratory

APADAS is a non-for-profit and non-governmental organization founded in 1988 in Sorocaba, Sao Paulo, Brazil. It is a pediatric reference center for the Public Hearing Health Care System in Sorocaba region, south of Sao Paulo State, which includes 48 cities and 2,618,120 inhabitants.

The “Richard Seewald” Award from the Hear the World Foundation has a special meaning for us because is named for a person who has been our inspiration for many years in our work with pediatric amplification. This award provided us the chance to improve our work with a new lab for fitting hearing aids in infants but more than this, gave us the responsibility to strive to provide better services to infants and their families each and every day. The new lab is used now to fit hearing aids in the little ears of infants that are identified at the newborn hearing screening program. Through the hearing aid fitting system provided with this award we feel that we are in a much better position to inform the rehabilitation program to the specific needs of the baby as we establish the goals and the strategies for the therapy and work with parents. In addition, we are now training people from other services to help them in hearing aid fitting and in this process have made a DVD with a step-by-step explanation that has now been distributed to all public services with no costs in order to spread our new knowledge and experiences with new fitting procedures throughout our country.

Saturday, October 13th
13:50 – 14:35
Patricia Roush (USA)
Clinical Management of Children with ANSD
Jace Wolfe, Ph.D., is the Director of Audiology at the Hearts for Hearing Foundation. He also is an adjunct Assistant Professor in the Audiology Department at the University of Oklahoma Health Sciences Center and Salus University. He previously served as the editor for the American Speech Language Hearing Association’s Division 9 journal and is currently a co-editor for the Plural Publishing, Inc. Core Clinical Concept Series on Cochlear Implants. Dr. Wolfe is a member of the Better Hearing Institute’s Pediatric Advisory Board as well as the Audiology Advisory Boards for Cochlear Americas and the Phonak Hearing Aid Company. He also serves on the Editorial Board of The Hearing Journal, and he is a reviewer for several peer-reviewed journals. Additionally, Dr. Wolfe co-authors a periodic column entitled “Small Talk” in The Hearing Journal, and he has published numerous articles in professional peer-reviewed and trade journals and is the first author of the textbook titled “Programming Cochlear Implants.” His areas of interests are pediatric amplification and cochlear implantation, personal FM systems, and signal processing for children. He provides clinical services for children and adults with hearing loss and is also actively engaged in research in several areas pertaining to hearing aids, cochlear implants, and personal FM systems.

From Good to Great: Non-linear Frequency Compression for Children
Non-linear frequency compression (NLFC) was developed to improve audibility for persons with high-frequency hearing loss. This presentation will discuss the results of several studies and case examples in which NLFC was used for children with degree of hearing losses ranging from mild to profound. Study outcomes including improvements in audibility, and speech recognition will be presented. Additionally, a detailed protocol for the selection, fitting, and verification of NLFC will be provided.

Reaching for the Stars: Optimizing Children’s Performance with the use of FM Technology
It is well known that children with hearing loss experience difficulty hearing in the presence of noise. The use of frequency modulation (FM) technology has been shown to improve performance in noise. This presentation will discuss the benefits and limitations of various types of FM technology, including Dynamic FM, soundfield audio distribution systems, and personal FM systems. The presentation will focus on the results of several studies which evaluated the benefits of soundfield and personal FM technology for children with hearing aids and cochlear implants. Additionally, a detailed protocol for the selection, fitting, and verification of FM technology will be provided.

Saturday, October 13th
8:45 – 9:20
Jace Wolfe (USA)
FM Systems for children
Norma Pallares
Audiologist and Speech Therapist. Master in Audiology.
- Professor. "Audiological Therapeutic. Bachelor of Audiology and Speech Therapy - School of Medicine. Universidad del Salvador.
- Professor "Music Therapy Clinic " . Bachelor of Music Therapy, School of Medicine. Universidad del Salvador.
- Co-Director of the Cochlear Implant Center Professor Diamante. Sup ENT Institute
- Scientific consultant for the Brazilian Journal of Audiology "Pro-Fono" in the subject Cochlear Implants.
- Member from the Executive Committee as Secretary of Asara (Argentina Association of Audiology).
- Responsible for Implantable Devices Area at Asara

Current Developments and Issues in Pediatric Auditory Brainstem Implants: An Audiologist’s Perspective


Children with profound hearing loss without benefits with appropriate hearing aids, can be habituated with a Cochlear Implant (CI). A condition for successful auditory stimulation is a developed cochlea and the presence of an adequate number of cochlear nerve fibers. Absence of cochlea or cochlear nerve contraindicates a CI.

A similar condition, absence of the cochlear nerve, is observed in patients with Neurofibromatosis type II (NF2) after surgical removal of the tumor. A possible auditory rehabilitation in these cases is the insertion of an ABI, which is placed in the lateral recess of the IV Ventricile of the brainstem, on the surface of the cochlear nuclei (CN).

Previous studies have considered only patients with NF-2 older than 12 years old possible candidates to receive an ABI (This is the only condition approved, by the FDA of the United States). Recently, a similar approach has been used in children with congenital cochlear nerve aplasia.

In our clinical experience at the CIC Prof. Diamante, Buenos Aires, Argentina, four children with cochlear nerve aplasia (not candidates for a CI) received an ABI.

We are presenting pediatric clinical cases to show the possibility of auditory habilitation and audiological outcomes in four children with aplasia of the cochlear nerve, by direct stimulation of the CN using an ABI.

These children underwent retro sigmoid approach for placement of the ABI into the lateral recess. The correct positioning of the electrodes was monitored through the Evoked Auditory Brainstem Recording (EABR).

No surgical or postoperative complications were observed. Auditory sensations were produced with the activation of the ABI. Patients have achieved speech detection and environmental sound awareness. They are showing variable levels of auditory improvement in the MAIS Scale through the parents’ opinion. All patients use the ABI in a permanent way. Map parameters, active electrodes, audiological outcomes, free field thresholds and speech perception tests, will be reported separately.
Our results suggest that ABI in children with cochlear nerve aplasia is feasible, with variable results. Surgery in this age group is safe, with no serious complications.

On the basis that earlier intervention captures the critical period of plastic development of the brain, there is a consensus that ABI surgery should be done early, better when it is no later than 3 years of age.

Children of the study show variable hearing and language evolution with their ABI. Age at ABI, presence of additional handicaps are important factors. Access to recognition of words in open set is possible. Patients with other handicaps demonstrate slower progress to develop milestones in hearing and language.

Challenges in Children with Cochlear Implants. Clinical Cases.

In our country, Argentina, the first cochlear implant for children was held in 1991. Today this child is a young college student who managed, through hard work and dedication to reach this educational level. But over time, the criteria for inclusion of children to receive cochlear implants changed, and not only those who had only one hard of hearing can access this wonderful device, but those with other difficulties. In this presentation, it will be possible to observe different cases with different pathologies and different resolutions compared to auditory and language stimulation.

Keywords: Cochlear implant with communication disorders; cochlear implant and auditory neuropathy or auditory dyssynchrony; cochlear implant and extreme prematurity.