

Abstract book
Instructional courses
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IC01.1 | Biomaterials and 3D-printing for ossicular reconstructions

Prof.dr Mario Milkov¹, Ivaylo Parushev¹, Stefan Peev¹, Miroslav Stoykov¹

¹Medical University "Prof. Dr. Paraskev Stoyanov"

Introduction:

Implantation of prostheses to reconstruct pathologically affected ossicular chain (malleus, incus, stapes) is a gold-standard surgical technique nowadays. A variety of biomaterials and methods, including 3D-printing, are used to manufacture ossicular prostheses. Important questions to set the surgical guidelines are as follows: biomaterial selection, design and validation of the ossicular implant, patients monitoring. Biomaterials used in ossicular chain reconstruction techniques are from the following main groups: metals and their alloys, polymers and composites, ceramics and carbons. Obstructive sleep apnea is a known-cause for damage of the audio-vestibular systems, affecting vestibular and hearing capabilities.

Materials and methods:

Thirty patients (15 male, 15 female, aged 50-75) with conductive, sensorineural and mixed type of hearing loss were examined in Sector "Audio-vestibular and Sleep medicine", University medical and dental center. All underwent a test with polygraphic equipment – Home sleep apnea test (HSAT), as well as an audiometry, tympanometry and OAE examination. All patients filled in informed consent forms, sleep questionnaires, forms to report the intake of medications, presence of allergies and general diseases. All patients had their occlusion and general oral health checked by a physician in dental medicine. Medical consults with specialists in pulmonology, endocrinology, neurology, cardiology were done as well, according to the specific clinical case.

Results:

A different case of OSA (mild=5, 4 male, 1 female; moderate=15, 10 male, 5 female; severe=5, 5 male, 0 female; total of 25, out of 30 tested patients), based on AHI scores was proven. In patients with moderate and severe forms of OAS, a more severe hearing loss or tinnitus case was detected, with sensorineural type of hearing loss prevalent. Cases of patients with OSA and conductive hearing loss were as well proven, although OSA was not the main cause of the hearing impairment present.

Conclusions:

Regular sleep studies should be performed in patients with symptoms for sleep disturbances, drowsiness, morning headaches and cessations of breathing during sleep. Early sleep apnea diagnosis can alleviate symptomatology and prevent damage on other anatomical systems, including the audio-vestibular.

Acknowledgements:

Thankfulness to the European Union-NextGenerationEU project, through the National Recovery and Resilience Plan of the Republic of Bulgaria, project № BG-RRP-2.004-0009-C02.

IC01.2 | Understanding oto-acoustic emissions

Prof. Dr. Martin Kompis | nstructional course 1.2, 3. Sociëteitskamer,
september 5, 2024, 09:00 - 10:00

Objective:

This instructional course offers an easy way to arrive at an intuitive, yet physically correct understanding of otoacoustic emissions (OAE). It is well suited for professionals who want to have a basic understanding of OAE. No prior knowledge or experience is required.

Background:

OAE are acoustical signals generated within the inner ear. Today, more than four decades after their first description, they are widely used diagnostic tool in audiology. Its diagnostic value can hardly be overestimated.

Methods:

The anatomical, physiological and physical basis of OAE will be discussed. The principle and the diagnostic value of two most frequently used measurement methods (transiently evoked OAE or TEOAE and distortion product OAE or DPOAE) will be shown.

In this course, you will have the opportunity to try to listen to your own otoacoustic emissions. A word of caution though: unfortunately, as the levels of OAEs are very low, often only about 2/3 of the listeners are able to hear them.

Results:

At the end of this course, you will know how, where and when OAE are generated. You will know the difference between TEOAE and DPOAE and have an understanding of their respective diagnostic values. With a little bit of luck, you will have heard your own OAEs.

Conclusion:

An easy course to gain an intuitive understanding on otoacoustic emissions.

IC01.07 Management of residual petrous bone cholesteatoma

Dr Giulia Bertoli Instructional course 1.7, 1. Concertzaal, september 5, 2024, 11:00 - 11:30

OBJECTIVES:

evaluation of a series of residual petrous bone cholesteatomas

MATERIALS AND METHODS:

Retrospective study of 18 cases of residual petrous bone cholesteatomas (PBC). Evaluation of different factors: symptomatology, radiological findings, previous treatments, and the probable cause of residual pathology.

RESULTS:

This retrospective study shows different causes of residual PBC: in addition to the unavoidable residual PBCs, voluntary residual PBC, residual PBC due to inappropriate surgical treatment and residual PBC caused by inappropriate approach selection/follow-up have been identified. Few illustrative cases are discussed for every single group.

Risk factors for a residual lesion, mainly represented by PBC relationship with noble temporal bone structures, are then discussed, as well as timing for revision surgery.

CONCLUSIONS:

Management and treatment of residual PBC is extremely difficult. The introduction of Diffusion-weighted imaging (DWI) has changed the postoperative follow-up of residual PBC, with a higher percentage of lesions discovered when still small. Identifying the cause of different types of residual PBC, can help to reduce the incidence of the lesion.

IC02.2 | Workshop Local Drug Delivery to the Inner Ear

Stefan Plontke, Prof. dr. Ronald Pennings Instructional course 2.2, 2.
Annazaal, september 5, 2024, 11:30 - 12:30

This instructional course provides a comprehensive introduction to local drug delivery to the inner ear, focusing on pharmacokinetic principles, drug delivery systems and current and emerging clinical applications.

Participants will gain insights into the mechanisms of drug distribution within the inner ear and how this knowledge can be utilized for research and development in local drug delivery to the inner ear and to improve treatment outcomes for patients with sudden sensorineural hearing loss and other inner ear disorders. A short overview of outcomes of treatment of sudden sensorineural hearing loss with different types and strategies of locally applied steroids and the development of novel inner ear therapeutics including recent clinical trials will be addressed.

Emerging developments of gene therapy for hearing loss, with a particular emphasis on the recent promising studies involving OTOF gene therapy, will also be highlighted. A forward-looking perspective on future treatment modalities and the potential of gene therapy to bring about lasting changes in the management of hearing loss will be offered. The course is designed for clinicians and researchers interested in the latest technological and pharmacological innovations in hearing preservation and restoration.

IC02.6 | Endoscopic Myringoplasty

Dr. Luana-Maria Gherasie¹ “Carol Davila” University of Medicine and Pharmacy, Bucharest
2 “Prof. Dr. D. Hociotă” Institute of Phonoaudiology and ENT Functional Surgery

1 “Carol Davila” University of Medicine and Pharmacy, 2 “Prof. Dr. D. Hociotă” Institute of Phonoaudiology and ENT Functional Surgery
Instructional course 3.8, 4. Kleine Zaal, september 6, 2024, 14:15 - 15:15

Scope:

In this instructional course, the techniques and procedures for endoscopic myringoplasty (EM) will be explained.

Objectives:

In this study, one of the objectives is to explore the advantages and disadvantages of EM. Also, we will present state of the art in reconstruction materials and endoscopic ear surgery equipment.

The methodology:

A theoretical update on endoscopic myringoplasty provides a comprehensive understanding of the latest advancements and innovations in the field. Additionally, it helps identify potential areas for further research and development. EM represents a significant advancement in otologic surgery, offering a safe and effective option for repairing the tympanic membrane perforations.

The limitations of the butterfly technique will be discussed concerning our functional and audiometric results. There will be an overview of myringoplasty techniques (underlay, inlay, overlay) accompanied by photo and video documentation. The graft choice depends on the surgeon's preference, the size and location of the perforation, and the patient's history. There are a variety of reconstruction materials for EM, such as biomaterials, cartilage, perichondrium, temporalis fascia, bovine pericardium membrane, fat, Platelet-Rich Plasma, and Epidermal Growth Factor.

Expected Results:

Familiarize the audience with the technology, techniques, procedures, and grafting methods presented.

IC03.4 | Environmentally sustainable otological care. From theory to practice

Anjola Onifake, Professor Mahmood Bhutta¹

¹Brighton & Sussex Medical School, ²University Hospitals Sussex, ³The Healthcare Improvement Studies Institute Instructional course 3.4, 4. Kleine Zaal, september 5, 2024, 14:15 - 15:15

Objectives:

Healthcare is responsible for 4-5% of global greenhouse gas emissions, through the delivery of care and the pharmaceuticals and products used to deliver that care. It also contributes to labour abuse in the products manufactured for use. Through my position as chair of the UK national "Green Surgery" report, I will present evidence on the carbon footprint of care, and how it applies to surgery and otology. I will discuss work undertaken by ENT-UK to create policy supporting sustainable practice, including in otology.

Methods and Results:

Using tools for mapping and fishbone analysis, we will work through examples of where attendees can impact on carbon in their own practice (whether in a trainee or senior role), through identifying and prioritising action, and then exploring ideas for lean pathways, reducing pharmaceutical use, and reducing and reusing medical equipment. We will explore opportunities and barriers to creating change in complex systems, and measuring that change.

Conclusion:

Attendees will gain understanding of the environmental impact of the care they deliver, hotspots they can target, and approaches and methods to deliver change.

IC04.7 | Outcome Parameters for Hearing Improvement in Clinical Trials and Clinically Relevant Differences

Prof. Stefan Plontke^{University Medicine Halle, Germany}, [Prof. Torsten Rahne](#)^{University Medicine Halle, Germany} Instructional course 4.7, 3. Sociëteitskamer, september 6, 2024, 09:00- 10:00

Outcome parameters are important for clinical trials or meta-analyses and determine the quality of the trial, its power and sample size.

This course focuses on audiological outcome parameters measured by pure-tone audiometry, speech audiometry in quiet or speech audiometry in noise. Combined outcome parameters as scores or grading systems are also part of the course.

In order to analyse the relevance and/or significance of outcome parameters, information on the minimal important clinical difference (MCID) is required. The course gives an idea of such MCIDs when audiological endpoints are used.

It is shown that there is a large variability of outcome measures in audiological studies. However, the choice of outcome measure is important. Reporting and/or publication standards are often not met or not applicable. More international efforts are needed to define and standardise the reporting of outcome parameters.

IC05.1 | Target Parameters of Otological Interventions

Alex Huber, Prof. Stefan Plontke, Julia Długaiczek, Nora Weiss, Magnus Teschner Instructional course 5.1, 2. Annazaal, september 6, 2024, 11:30 - 12:30

This instructional course is held by five speakers representing the ADANO Otology Working Group and focuses on the target parameters of otological interventions. The course explores the complexity of quality assessment in reconstructive middle ear surgery by incorporating different perspectives from patients, physicians, and the international scientific community.

The speakers will discuss the importance of comprehensive classification systems as well as audiological and vestibular target parameters. Additionally, patient-reported outcome measures (PROM/PREM) and clinical and radiological target parameters will be highlighted as essential components in describing therapy quality.

The course aims to provide a structured approach to evaluating the entire therapeutic process, going beyond the sole consideration of audiometric results. This includes the use of internationally recognized classification systems and standardized reporting frameworks to ensure a well-founded, comparable, and process-spanning quality assessment.

IC05.2 Mastering Digital Integration: A Comprehensive instructional Course on Implementing and Digitizing Patient-Reported Outcome Measures (PROMs)

Instructional course 5.2 , 1 September 6, 2024 11:30 – 12:30 Prof Dr. Paul Merkus¹, MSc Jeroen Kraak¹ Amsterdam Umc

Objectives:

This instructional course aims to equip healthcare professionals with the necessary skills and knowledge to seamlessly integrate Patient-Reported Outcome Measures (PROMs) into digital healthcare systems. The objectives of the course are to provide participants with a comprehensive understanding of PROM implementation, interpretation, visualization and data extraction from Electronic Health Records (EHRs).

Methods:

Through a combination of theoretical insights and practical demonstrations, participants will learn the step-by-step process of PROM implementation within their EHR systems. The course emphasizes the importance of understanding both the technical aspects and the clinical relevance of PROMs, ensuring participants are equipped to effectively utilize these measures in their practice. Using the Otology Questionnaire Amsterdam as a case study, instructors will share their experiences to illustrate best practices and potential challenges in PROM implementation.

Results:

Upon completion of the course, participants will have acquired the skills to confidently implement PROMs in their practice. They will be proficient in interpreting and visualizing PROM data within EHR systems, enabling them to derive meaningful insights for clinical decision-making. Furthermore, participants will learn strategies for extracting and utilizing PROM data to enhance patient care and improve health outcomes.

Conclusion:

This course offers a comprehensive educational opportunity for healthcare professionals seeking to master the digital integration of PROMs. By providing practical guidance and real-world examples, the course enables participants to unlock the complete potential of PROMs for enhancing patient-centered care

IC06.3 | Bilateral CI's and adults

[Dr Wendy Huinck¹](#), [Diane Smit²](#), [Simone Naber³](#), [Stef Groenewoud³](#),
[Kathryn Chlosta⁴](#), [Gabrielle Janssen⁴](#), [Frances Gallimore⁴](#)

¹Department of Otorhinolaryngology, Radboud university medical center, ²Department of Otorhinolaryngology, University Medical Center Utrecht, ³Department of Ethics, Radboud university medical center, ⁴CI user, advocate of bilateral CI users. Instructional course 6.3, 2. Annazaal, september 6, 2024, 14:15 - 15:15

Since the introduction of cochlear implantation (CI) as a solution for severe to profound hearing loss in the 1980s, CI has become an accepted intervention to restore hearing abilities in individuals with severe to profound sensorineural hearing loss. Over the years, the indications for CI have expanded. Initially, CI was a unilateral solution for individuals with bilateral deafness, but it has since been extended to those with some functional residual hearing. Additionally, it has been established that early implantation in young children is crucial for the development of language and fluent speech. Consequently, the age of implantation has been lowered from toddlers to infants younger than 9 months. To further enhance the development of hearing-impaired children, the last decade has seen an expansion of CI indications in children up to 18 years from unilateral to bilateral CI. Although bilateral hearing is also important for individuals over 18 years of age, in the Netherlands the costs for a second CI are not reimbursed under the Health Insurance Act. Scientific evidence for added benefit or effectiveness of a second CI is inconclusive, at least according to the standards of the National Health Care Institute who advises on the allocation of funds for national healthcare.

Although bilateral hearing is also important for individuals over 18 years of age, in the Netherlands, the costs for a second cochlear implant (CI) are not reimbursed under the Health Insurance Act. According to the standards of the National Health Care Institute, which advises on the allocation of funds for national healthcare, scientific evidence for the added benefit or effectiveness of a second CI is inconclusive. The added value of a second CI, however, depends on factors more significant than those currently used. On the other hand, budget constraints also play a role in a health care system. Specifically in an era of an increasing aging population, the development of high-cost advanced technologies, and a decrease in available healthcare personnel where expansion of care in one area causes displacement of care in another area. Therefore, the allocation of public funds requires careful consideration and solid justification. Decision-making should ensure that any arising inequalities are justifiable. The current situation regarding a second CI in the Netherlands creates the possibility for arbitrariness and injustice.

The criteria used to determine cost-effectiveness do not capture the benefit of a second CI for adult user very well. The aim of this assessment should be to evaluate the contribution a second CI makes to the flourishing of the individual with hearing loss within their unique

context. This requires that the decision to include a second CI for reimbursement be weighed with different criteria than those usually applied to allocation decisions in the Netherlands. The potential benefits derived from a second CI, combined with the uncertainty of the intervention's outcome in specific cases, justify the possibility of a case-by-case assessment for decision making about a second CI.

This course is conducted by clinicians, CI users, and ethicists, allowing the aforementioned theme to be approached from a broad perspective. The aim of the course is not only to deepen the understanding of cochlear implantation but also to inspire a broader perspective beyond strictly quantitative, cost-effectiveness driven allocation considerations. It seeks to provide tools based on ethical models and the patient's voice.

IC08.2 Robotic electrode insertion during cochlear implantation (RobOtol)

Professor Alexandre Karkas Instructional course 8.2, 2. Annazaal, september 7, 2024, 08:30 - 10:00

After introducing the use of different robots in cochlear implant surgery, the speaker will present the principles of robotic-assisted insertion of the electrodes during cochlear implantation using the RobOtol®. The learning curve, technical setup, and surgical technique will be described in details, as well as some clinical cases with videos.

The speaker will discuss the potential advantages and disadvantages of this technique and compare it to manual (classical) insertion of the electrodes. The benefits of atraumatic electrode insertion are also discussed in terms of hearing results, residual hearing preservation, and protection of endocochlear microstructures. The speaker's surgical experience and ongoing research work (micro-imaging and histology of the implanted cochlea) will be presented.

IC8.04 | Genetics of hearing loss: diagnostics and therapy'

Prof. dr. Ronald Pennings Instructional course 8.4, 4. Kleine Zaal, september 7, 2024, 08:30 - 10:00

Abstract:

Hearing loss is a highly heterogeneous condition with a significant genetic component, particularly in cases of congenital and early-onset hearing impairment. This instructional course provides a comprehensive overview of the current state of genetics in hearing loss diagnostics and therapy, emphasizing the pivotal role of genetic evaluation in clinical practice. We will delve into advanced diagnostic approaches, focusing on exome sequencing, which offers a broader and more efficient alternative to targeted gene sequencing. The course will highlight the superiority of exome sequencing in identifying novel genetic variants and its potential to uncover the molecular basis of hearing loss.

In addition to diagnostic strategies, the course will explore the emerging landscape of genetic therapies for hearing loss. We will discuss the latest breakthroughs, including the first successful studies conducted last year, showcasing the potential of gene therapy in restoring auditory function. The session will underscore the clinical advantages of establishing a genetic diagnosis, which not only facilitates targeted therapeutic interventions but also provides critical insights into the underlying pathophysiological mechanisms. Attendees will gain a deeper understanding of how these advancements are shaping the future of hearing loss management and the significant impact they have on patient outcomes.

IC08.7 | What can we learn from transimpedance measurements

Marc Leblans European Institute For ORL, GZA Sint-Augustinus, Antwerp, Belgium **Instructional course 8.7, 3. Sociëteitskamer, september 7, 2024, 08:30 - 10:00**

Electrical impedances at the electrode of a cochlear implant are routinely measured in clinical practice. They may signal a device failure or hint towards clinical complications in the inner ear. As a multitude of factors may affect the impedance, the measurements most often do not allow a precise diagnosis. Advanced measurement and analysis techniques are needed to unravel the different phenomena that contribute to the impedance at the cochlear electrode.

The presented work demonstrates the use of TransImpedance Matrix measurements (TIM) in the interpretation of electrode failures and electrode placement, specifically also electrode tip foldover detection. Recording TIM at different time instances during the stimulation pulse and fitting these data to an impedance model of the cochlea allows one to split up the impedance in components related to specific phenomena at specific locations with respect to the CI electrode. Also probing the impedance between adjacent electrode contacts by means of the 4-point probe method adds to a more detailed interpretation. Increased Faradaic resistance, associated to processes near the electrode–tissue interface (polarization impedance), may reflect inflammatory reactions. More research is needed to find out if the abrupt increase of the polarization impedance after surgery, which is strongly patient dependent, might be a measure for insertion trauma caused by electrode insertion. Postoperative measurements establish a significant negative correlation between the Faradaic resistance and the T- and C-levels in a patient’s programming MAP.

The gradual increase of the resistance in the region close to the stimulation contact (near-field resistance) mainly happens during the first 40 days after surgery, i.e. on a time scale very similar to that observed in a guinea-pig study correlating impedance changes to fibrous tissue growth. Between 2 and 3 months after surgery a significant positive correlation is observed between the near-field resistance and device usage. The far-field resistance, located further away from the stimulation contact, begins to rise only after one month in half of the study group, once the near-field component reached a critical value. This suggests indeed fibrosis initiating near the electrode contacts and spreading farther away thereafter. The profile of the far-field resistance along the array reflects perioperative current-leakage through the round window, being reduced postoperatively. The lower current-drain correlates to lower eCAP thresholds, indicating more efficient and more specific stimulation with higher far-field resistance.

Although the decomposition of the impedance at the CI electrode using more advanced measurement and analysis techniques offers a more detailed understanding of general trends in impedance changes and shows a potential for use in device fitting, there are still open questions needing further research, in particular in explaining data from individual patients.

IC09.5 How to start a cochlear implant program: from a dream to sustainable service

Fedir Yurochko Instructional course 0, 2. Annazaal, september 7, 2024,
10:30 - 12:30

For the first time I assisted in a cochlear implant surgery performed by Prof. Klaus Albegger in 2003 at the ENT Clinic in Salzburg. At that time I thought that I shouldn't even dream of doing this in my clinic in Lviv.

Although I had a desire to develop modern otosurgery. And then many internships and master classes in otosurgery with temporal bone dissection in Poland, Belgium, many ear surgeries I performed in Lviv gave me confidence in otosurgery.

In 2021, my colleagues-mentors-teachers – prof. Andrzej Żarowski (Antwerp, Belgium), prof. Józef Mieźwiński (Bydgoszcz, Poland), prof. Marcin Szymański (Lublin, Poland) told me that I could already perform cochlear implantation. Since then, I started dreaming about implants. Back then, we created the Hearing Implants Program, which provided for newborn hearing screening, full hearing diagnostics and hearing prosthetics, surgical intervention (cochlear implantation or implantation of bone conduction hearing devices), and full rehabilitation of hearing and speech within the Lviv region.

Thanks to the support of our colleagues, we received modern hearing diagnostic equipment and 6 cochlear implants. In June 2023, we performed the first cochlear implants for three children, and in March 2024 - 2 more cochlear implants. In September 2024, we plan to install the 6th implant. The implanted children are undergoing active rehabilitation and are beginning to speak.

My dream has come true.

Our Program is unique in that it started its work in difficult times of war and without any funds from the state budget of Ukraine.

The effective start of the Hearing Implants Program was noticed by government agencies. And since 2024, the L`viv Clinic of Pediatric ENT has been included in the State Program, which purchases implants for children in need. In 2024, 2025, and 2026, we are to receive 10 cochlear implants and 3 bone conduction implants annually.

Therefore, my dream has not only come true, but also turned into a sustainable system of assistance - from screening to final diagnosis, implantation and full rehabilitation of children with hearing loss.

IC09.6 Pediatric malformations and CI rehabilitation

Davide Brotto, dr Neeraj Suri Instructional course 8.3, 3.

Sociëteitskamer, september 7, 2024, 08:30 - 10:00

History of Classifications In 1791, Carlo Mondini (1729–1803), dissected the temporal bone of an 8-year-old boy who was deaf. Dissected his temporal bone and identified three things, viz superior coil of the cochlea was missing, the entire labyrinth was enlarged, and the vestibular aqueduct (VA) was very large. This triad thus came to be known as Mondini's dysplasia. Sadly, for the next two centuries, almost every malformation of the inner ear was labelled as Mondini's dysplasia. In 1987 imaging based classification was proposed by Jackler. Later Sennaroglu and Bajin refined the classification. Presently this is the most well accepted classification world over.

Is radiology important .MRI and CT are complimentary methods for evaluation of suspected IEM. MRI is superior for evaluation of the membranous labyrinth, cranial nerves and brainstem.

It is important to study inner ear malformation radiology

- To come up with surgical planning
- to avoid complications intra operatively
- for optimizing outcome
- customization
- To set family expectation of outcomes

Overall, knowledge of malformations aids in enhancing the safety, effectiveness, and success of cochlear implant program .

IC10.1 Vestibular Assessment: Basics, Principles and Clinical Interpretation

Andy Beynon Instructional course 2.6, 3. Sociëteitskamer, september 5, 2024, 11:30 - 12:30

In this short instructional course, I will explain why and how most important tests are performed to assess vestibular function and how they should be interpreted in daily ENT practice. Besides simple 'bedside' tests, clinical laboratory tests are addressed, such as oculomotor-, caloric irrigation-, rotary chair-, vestibular evoked myogenic potential (VEMP)-, and the video-Head Impulse Testing to assess the vestibulo-ocular reflex (VOR) for all semicircular canals. Besides interpreting objective outcomes, I will also address the importance of an adequate anamnesis in combination with dedicated questionnaires. Awareness of the frequency-specificity of diagnostic testing will be my take home message.

IC10.2 Genetics of hearing loss: diagnostics and therapy'

Cris Lanting Instructional course 8.4, 4. Kleine Zaal, september 7, 2024, 08:30 - 10:00

Hearing loss is a highly heterogeneous condition with a significant genetic component, particularly in cases of congenital and early-onset hearing impairment. This instructional course provides a comprehensive overview of the current state of genetics in hearing loss diagnostics and therapy, emphasizing the pivotal role of genetic evaluation in clinical practice. We will delve into advanced diagnostic approaches, focusing on exome sequencing, which offers a broader and more efficient alternative to targeted gene sequencing. The course will highlight the superiority of exome sequencing in identifying novel genetic variants and its potential to uncover the molecular basis of hearing loss.

In addition to diagnostic strategies, the course will explore the emerging landscape of genetic therapies for hearing loss. We will discuss the latest breakthroughs, including the first successful studies conducted last year, showcasing the potential of gene therapy in restoring auditory function. The session will underscore the clinical advantages of establishing a genetic diagnosis, which not only facilitates targeted therapeutic interventions but also provides critical insights into the underlying pathophysiological mechanisms. Attendees will gain a deeper understanding of how these advancements are shaping the future of hearing loss management and the significant impact they have on patient outcomes.