



## Ladies and Gentlemen, Distinguished Guests, Dear Friends!

**Better and better effects of deafness treatment especially in smaller and smaller children encouraged us to look for new technological solutions. As a**

**result, we have received a new generation of cochlear implants from researchers in bio-engineering and producers.**



Prof. HENRYK SKARŻYŃSKI, M.D., Ph.D.  
President of the 2009 ESPCI

Some of the earlier implants seem to be totally archaic today. Together with evident advancements for better speech coding, strategies were used in new implants to provide optimize patients' communication with the environment.

Otosurgeons developed their skills and were able to take advantage of the latest scientific and technological achievements. Over the years, the approach to post-operative rehabilitation and control of the applied cochlear implants has varied as well. Selection criteria for implantation have changed gradually. Therefore, indications have been extended for

younger and younger children, not only for those with total deafness but also with better partially preserved hearing. A number of scientists in various parts of the world – in the USA, Australia and Europe looked for new ways to achieve the best final efficiency of the applied cochlear implant, to offer our patients, especially children more and more to ensure free communication with the environment.

It was always a challenge regarding how to approach to preserve the smallest residual hearing and then use it. Appreciating the role of the scientists, it is impossible to not remember the role of the patients and their families, parents and care-givers. It is they who have considerably helped to develop new concepts which, looking back, should be considered a common success

today. It was the mother who often did not take off the hearing aid from the other ear which apparently gave no benefit.

Thus, she proved that combined acoustic and electric stimulation is possible and faster progress in rehabilitation may be the effect of that. I mention that because in my clinical practice I have met such families and such children. I have the irrefragable impression that sometimes practice was way ahead of scientific evidence and we should bow with all the respect to it.

The series of European conferences known as ESPCI has played an outstanding role in the development of new technologies, surgery and rehabilitation. Achievements of individual scientists, clinics and multicentric investigations could be presented and shared with many there.

The idea of combining electrical stimulation via cochlear implant with acoustic amplification provided by a hearing aid was initially described by Dooley et al. in 1993 as Bimodal hearing in the context of a cochlear implant used with contra-lateral residual hearing. Undoubtedly, one of the important achievements was the idea of combining electrical stimulation of the cochlear implant with acoustic amplification using a conventional hearing aid, named electro-acoustic stimulation by prof. Christopher v. Ilberg in 1999, or simply Hybrid stimulation by prof Gantz. EAS or Hybrid stimulation was not only theoretically justified but also clinically proven to benefit patients with atraumatic intracochlear insertions of refined electrode arrays. (cont. on p. 2)

## Invitation to the Garden Party

### PROGRAM OF THE GARDEN PARTY:

On behalf of the 9th ESPCI hosts, I would like to invite all of the Congress' participants and accompanying persons to visit the International Center of Hearing and Speech in Kajetany.

This time we will not carry out any medical procedures – we would like to get to know each other better during informal chats and have fun. To celebrate your visit to Kajetany, our friends artist have prepared a special concert, to which I invite our guests. For us and our patients the Center is a special place, a place for which we raised funds ourselves – nearly 80 percent. It is the effect of the whole team's hard work.

We and our patients feel here as being at home. That home opens its doors for the international multidisciplinary scientific community – guests of the ESPCI in Warsaw.

Busy with our everyday clinical and research work, we usually do not have enough time to look at the world from a different perspective. Therefore, I am convinced that this meeting in Kajetany will give us lots of unforgettable memories, will make you want to come back and that the evening shall remain long in the hearts and minds of our guests.

**Prof. Henryk Skarżyński and his team**

- 20:00 Prof. Henryk Skarżyński's welcome speech at the main tent
- 20:05 Studio Buffo Show – live music concert
- 22:00 Live music – disco
- 23:10 Fireworks show
- 23:10 Live music – disco
- 22:00 Buses first departure at



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THE 9<sup>TH</sup> EUROPEAN SYMPOSIUM ON PAEDIATRIC COCHLEAR IMPLANTATION

#### ORGANIZERS:

International Center of Hearing and Speech of the Institute of Physiology and Pathology of Hearing



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EUROPEAN HEARING PRESERVATION

# Partial Deafness Treatment

Continuation from 1

For the first time, we presented our effects of significant residual hearing preservation and combining electrical stimulation in one ear with acoustic in the other, at the ESPCI in Antwerp in 2000 during a satellite symposium organized by MED-EL company.

We presented preservation of 77.3 perc. of residual hearing in over 62 patients. We also indicated that the precondition of such a procedure was following the optimum, least invasive surgical approach – “the Round Window Approach”. It should be pointed out, at that time it was surprising, because the most common was cochleostomy to approach scala tympani, made a little to the front of the round window, in the wall of the inner ear which was defined as “Soft Surgery” strategy.

The growing material regarding children with various, bigger and bigger residual hearing was consistently presented at all consecutive European conferences in the ESPCI series in Spain, Switzerland and Italy, at American conferences and during a series of specialistic conferences “Hearing Preservation Workshop”. Consequent development of our program with the round window approach resulted in selecting a new group of patients in whom the size of the ganglion cells population in the apex of the cochlea, representing normal tonotopy, allows them for communication with the external world without any amplification of sounds through conventional hearing aids.

Such condition of hearing has been defined as partial deafness treated using cochlear implants – “Partial Deafness Cochlear Implantation” (PDCI). For the first time in the world, an adult patient with partial deafness was operated on by my team in 2002. We presented his results at the “Hearing Preservation Workshop” in Indianapolis in the fall of 2002.

During the following meetings all PD patients were presented. Satisfactory hearing preservation in 90 perc. of adult patients allowed for surgical treatment of a child with partial deafness in late 2004. Till now, the growing homogenous group of children with practically unchanged hearing after cochlear implantation in 100% is the only one presented

in world literature and during this conference. PDT is no doubt a great scientific and clinical achievement which shows us new ways of cochlear implants program development especially in children. Consequently, we may say today that we witness unusual changes in the field of technological development of cochlear implants, in perfecting speech coding strategies, implantation strategies, speech processor fitting strategies, new types of electrodes as well as software for fitting and telefitting.

The theoretical basis of combining two methods of hearing restoration through amplification of the existing hearing, applying conventional hearing aids and complementation of the lost hearing abilities in high frequencies using cochlear implants has been proven in everyday clinical practice. It has been proven that synergism exists between the preserved natural hearing of different degrees and electrical hearing which may be additionally amplified by acoustic stimulation.

a conclusion that contemporary understanding of “Partial Deafness” (PD) is a little different, and the selection criteria for application of various acoustic and

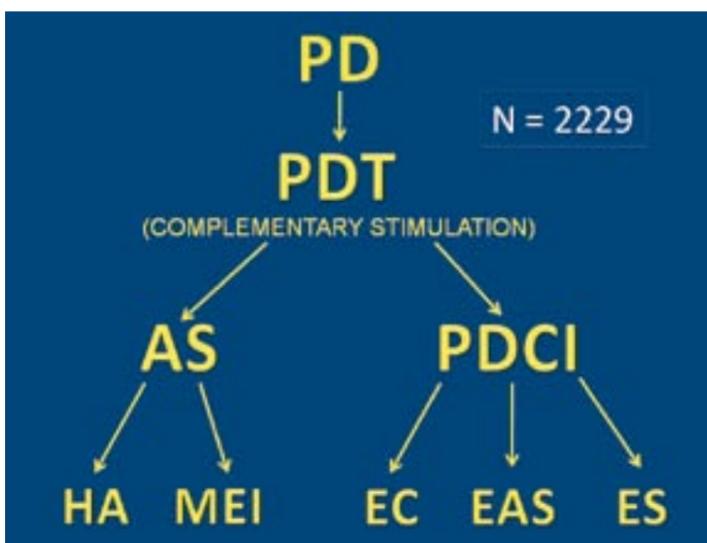
electric amplifications providing conventional hearing aids, middle ear implants and cochlear implants may be changed, extended and be complementary.

This new approach should allow for new chances and possibilities for patients who did not benefit from conventional hearing aids and not qualify for cochlear implantation.

This new approach shows, that looking at hearing examination results which may indicate partial deafness (PD), we may realistically talk about its treatment using the latest technologies. It has been demonstrated on the procedure algorithm below.

**PDT TODAY INCLUDES A MULTIDIRECTIONAL APPROACH**

The acoustic stimulation alone in so called borderline patients (“Acoustic Stimulation” - AS), electric stimulation as a complement to the existing good hearing in low frequencies (“Electrical complement” - EC), with amplification in the acoustic part – Hearing Part Amplified, combined electro-acoustic stimulation (“Electric-Acoustic Stimulation” – EAS), and electric stimulation alone in case of failure and loss of partial hearing (“Electric Stimulation” – ES)



After I implemented the first program of deafness treatment using cochlear implants in Poland in 1992 and getting experience based on 2500 operations on children and adults, I decided to approach the problem of hearing preservation from a slightly different perspective. I came to

Algorithm of treatment procedure selection in patients with partial hearing impairment called partial deafness. Development of a new conception, which comprises earlier accomplishments of a number of eminent scientists, shows the position of their achievements and composes

within our crucial attainment, is permanent hearing effect in cases of its good preservation in low frequencies and electrical complementation in the other (EC).

“Electrical complementation of partially normal hearing is possible and expected.”

To define the turning point in treatment of different types of PD, we were empowered by the following:

a) 10 years of observations and treatment of hearing impairment with different degree residual hearing preserved defined today as partial deafness (PD) in 1357 patients – children and adults with combined stimulation (ES);

b) almost 7 years of follow up of 72 adult patients with preserved good hearing after the surgery in 88.7 perc. in low frequencies and complemented electrically (EC);

c) nearly 5 years of follow up of 21 children with 100 perc. preserved good hearing in low frequencies after cochlear implantation and complemented electrically (EC);

d) 6 years of new acoustic stimulation (AS) using Vibrant Soundbridge implants in 42 patients and temporary application of conventional hearing aids before deciding about implantation in 729 patients;

e) 17 years of experience with round window approach in the first stage of the cochlear implants program in Warsaw which for the last 10 years have gained new meaning for preservation of residual hearing and set the basis for successful treatment of partial deafness (PDT);

f) Over the last 10 years proving the usefulness of the possibility of significant or normal hearing preservation using a few types of such as Med-El electrodes and recently the new electrodes in Nucleus implant.

The challenge we set for ourselves for the 9th ESPCI in Warsaw was to scrupulously investigate experiences of a number of scientists, centres, and to propose a new look at treatment

of different types of partial deafness, which will be the greatest challenge for our society in the next few years, which could expand and put in order new indications for upcoming groups of patients giving them new chances and possibilities. I take this opportunity to invite you to participate in the lecture today, during which

I will present the results of our clinical follow up. I would like to announce that a monograph devoted to hearing preservation in treatment of partial deafness entitled “Hearing Preservation – Partial Deafness Treatment” is in its final stage.

For the past several years, the practical approach to realization of that program has been shown live during demonstrative surgeries, numbering from a few to a dozen or so a day. It is also possible to get acquainted with the results and meet with the patients during “Window Approach Workshops”.

Working on partial deafness has been a great challenge for our team and a stimulus for development in various directions. It has concerned elaboration and implementation of new diagnostic methods, hearing screening programs, new sets of audiological tests, psychoacoustic methods and functional imaging methods.

Recently, we have been implementing a European Union grant funded project, “Remediation of Hearing Loss – Hearing Treat”. Since 2006 the Institute has been leading the “Hearing Treat” project, which is aimed to optimize the outcomes of PDCI with the application of state of the art tools and innovative research methods developed and put into practice recently in leading centres of hearing research.

I would like to acknowledge the contribution of our partners: prof. Blake Wilson – overseas expert, prof. Frans Coninx from Cologne University, Hose Luis Padilla from University of Granada, dr. Sophia Kramer from Amsterdam, prof. Patric Zorowka and prof. Kurt Stephan from Innsbruck University, dr. Marek Polak from Med.-El company.

**Prof. Henryk Skarzyński, M.D., Ph.D. President of the 2009 ESPCI**



## COCHLEAR IMPLANTATION IN CHILDREN: Beyond rehabilitation – Round Table

Moderator: Prof. Sue Archbold

**The “Beyond Rehabilitation” round table discussion, although less than one hour in length, will probably go down as one of the most action-packed, detail-rich hours of the 9th ESPCI Congress. So much information, so little time.**

Sue Archbold provided the opening remarks, focusing on developments in the area of long term strategy for CI procedures. In particular, the overall question of who exactly is responsible for the long-term management of pediatric CI patients was introduced. Stating that when people ask the question, “What is your rehabilitation philosophy?” She told the audience, “I don’t have one”. She went to explain that given the diversity of patients and their different sets of needs, any strategy one proposes needs to take this fact into account.

So, the question arises then, what is needed? What do “they” want? Prof. Archbold stated that parents need to realize CI is not a quick fix, and that ongoing support is needed from parents and teachers; nor is CI a miracle cure.

Next up, Alex Wheeler from NDCS briefly summarized data from a three-part study using outcome measures, written questionnaires and in depth interviews to examine the way cochlear implantation impacts on communication choices and the experiences of families. The study found that parents choose

the most effective way of communicating with their child, but retain as their goal the development of oral communication skills. For many this is a journey in which different approaches are utilized at various stages in the child’s development and in later years, the use of sign language may re-emerge alongside oral communication as a second language.

Changing candidature: do we know how to support these children and families in short and long term? De Raeve L. Following Wheeler’s presentation, Leo De Raeve gave an overview of the changing selection criteria being employed in qualifying candidates for CI procedures. Generally, the average age of patients has decreased considerably, with some implantation taking place in patients as young as five months of age. Additionally, among the biggest developments, he noted the transition from unilateral to bilateral implantation. Another issue for consideration is the question of children from a signed bilingual setting, and how to support these children and their families.

He presented the results of a study that compared a group of early implanted children educated in a signed bilingual setting in the Netherlands, and a group from a monolingual setting in Flanders. The results showed that the Flemish children had better speech intelligibility and spoken language development,

expressive and receptive. There was more variability in the Dutch group. However, as De Raeve pointed out, we should not conclude that only language input makes the difference, because the educational settings were so different.

In terms of general conclusions, he stressed the need for professionals to be flexible, continually updated with the latest technology, but also to be properly trained in working with very young children and their families, to provide an environment which will utilize the useful hearing while meeting the linguistic and curricular needs of the children, to meet the psychosocial needs of this group as they grow through adolescence and to work with other professionals. Despite the amount of progress that has been made, there remains a great deal of work to do in a number of areas.

Beyond rehabilitation: Changing education- what is needed in education for long-term support Okalidou A. Areti Okalidou from the University of Macedonia provided an insightful snapshot of the current state of educational support for CI students in Greece. She pointed out that the current model usually places CI students with a deaf teacher, and no oral language is used in lessons. Moreover, the overall lack of audiological services and appropriate equipment poses a challenging issue. She went on to outline the results of

a pilot program for long-term support, which was funded by a European Union grant of 127,000 euros, whose purpose was to enhance students skills for audition of spoken language.

Taking place over a 4.5 month period, the study conducted continuing education seminars for school professionals, one-to-one student assessments in the areas of hearing, audition, speech and language, and self-esteem to assess educational needs. The student outcomes indicated the need for more audition and more language to affect better academic achievement.

As for teacher outcomes, knowledge gains included a better understanding of CI function and CI education as a whole. Skill gains included IEP implementation, inter-disciplinary collaboration for feedback and monitoring progress. In the final analysis, she underlined the fact that to expand and build a long term support structure for long term outcomes in language competency and learning requires funding, and lots of it, from the authorities responsible.

Cochlear implantation services’ change is overdue O’Donoghue G.M. The session’s final speaker, Gerry O’Donoghue, bookended his brief presentation with two complimentary quotations to illustrate the main point of his talk. Citing Confucius’ well known saying “Only the wisest and stupidest men

never change”, he went on to remind audience members of the pioneering work done by Djurno and Eryies who performed in 1957 the first CI attempt in Paris. An image of the huge device (by today’s standard) was shown on screen. O’Donoghue also paid tribute to the work of William House, who “took CI and made it what it is today”. He mentioned the strength of House’s character and the tenacity on his part that was required to make CI a reality, which was controversial at the time. Concerns at the time included the fear of damaging intracochlear structures; losing residual hearing; the risk of meningitis/infection; the effects of chronic electric stimulation.

There were also serious issues regarding device failure, portability, the need for repeated surgeries, and/or frequent hospital visits. O’Donoghue went to summarize the advantages and disadvantages of the so-called “medical model” vs. the “hospital model” and stressed the importance of bringing care closer to home/community in order to make it more family friendly, less intimidating, less costly, and of course, more efficient. But of course, change does not come easily, or without a cost. Ending his presentation with another famous quote, this one by Woodrow Wilson, O’Donoghue reminded us: “If you want to make enemies, try to change something.”

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# Tele-medicine: cost benefits for patients, e-learning benefits for doctors

The widespread use of the cheap Internet communication can support the effectiveness of treatment, lower its cost and provide a unique chance for doctors to improve their skills and knowledge.

The “tele-medicine” is a significant advancement in medical science. In recent years, it has become increasingly popular both in Europe and the United States, and is also constantly developing in Poland.

It allows a highly qualified specialist to remotely take part in a surgical operation live, in real time from any location with an appropriate internet connection. Moreover, it produces significant savings as “not everyone has to be everywhere”.

Nowadays everybody concerned with reducing costs of treatment is very much interested in these new technologies in the medical sciences – says Professor Henryk Skarżyński, director of the Institute of Physiology and Pathology of Hearing.

Hospitals save most when they can have the most renowned specialists evaluate complicated radiological images without employing them in every medical facility. Based on the long experience of our Institute of Physiology and Pathology of Hearing, most of the benefits for patients come from participating in diagnostic screenings of sense organs for large numbers of children and youth. Thanks to this procedure, we can quickly diagnose early stages of illness. An excellent example is the Institute's own programme for early detection of hearing disorders, named “I can hear”. Detection of little advanced disorders gives the chance to lower the cost of surgical ear treatment by 65-70 per cent. – explains Professor Skarżyński.

Tele-consultations are the other most effective and visible example producing significant benefits for patients. These have been conducted on a large scale between the International Center of Hearing and Speech and associated branch centers in Poland.

Thanks to these consultations, the doctors from the Warsaw institute are in full contact with patients and have full access to all the information about their ear diseases conditions without the ne-

cessity of travelling to distant healthcare facilities.

The Institute of Physiology and Pathology of Hearing is the first such institution in Poland that provides e-learning courses in otolaryngology, audiology and phoniatrics in the frame of continual education for doctors. The e-learning courses are placed on a specialized multimedia e-learning platform which was launched in 2005.

The system enables organization and management of distance learning. In addition, the institute has introduced its “Educational Portal of the Institute of Physiology and Pathology of Hearing”, than complements existing e-learning platform. Students can log in to the demonstrational version of the e-learning platform in order to become familiar with this method of education.

According to Assoc. prof. Krzysztof Kochanek, a co-author of the e-learning platform, such a method of medical education provides a wide variety of possibilities. The wide range of multimedia internet courses should be aimed at doctors who, according to the Decree of the Minister of Health dated October 6, 2004 regarding professional qualifications of doctors and dentists, are obligated to regularly upgrade their skills. The basic advantage of this educational method is the fact that access to the on-line material is available at any time from any internet-equipped location.

This is very important for those who do not have time to take part in the stationary training sessions at remote locations. Multimedia-based courses provide a more interactive experience for the students and lead

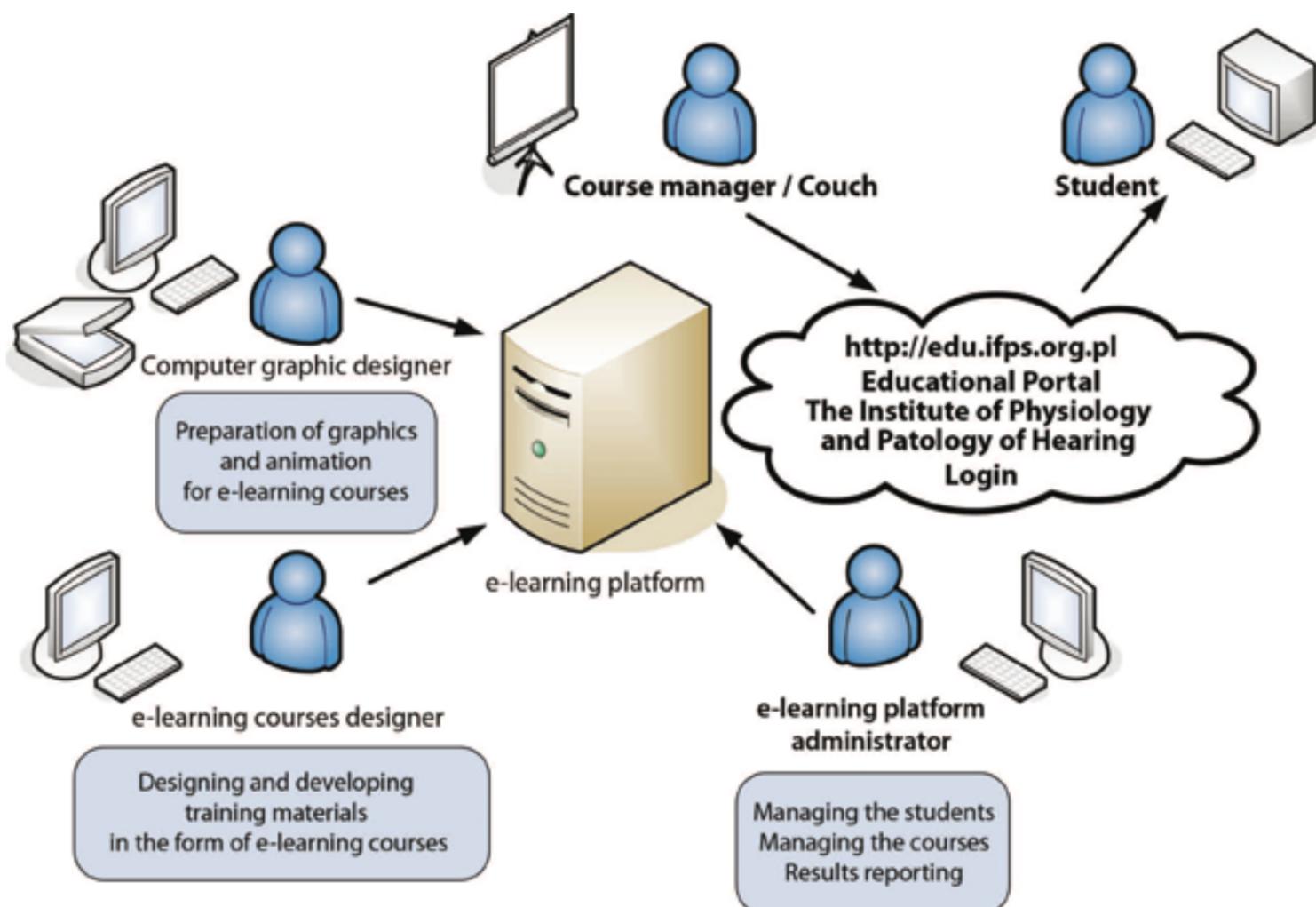
naturally to better assimilation of knowledge. Assoc. Prof. K. Kochanek also adds the platform provides quick and objective checking of test results and makes learning itself more individual.

The Institute of Physiology and Pathology of Hearing has been developing its training and educational activities since 1996. The training programme is aimed at various groups of specialists treating people with hearing, speech, voice and language communication disorders, as well as dealing with parents and patients themselves. The training courses prepared by the Institute of Physiology and Pathology of Hearing, based on the incessant education requirements also include specialized courses for the otolaryngologists, audiologists, pho-

niatrists, hearing aid specialists, Otolaryngology Academy, Study of Objective Hearing Testing and the Otoacoustic Emissions.

The Institute has also developed a special qualifying course for the profession of hearing aid specialists, which is delivered through the so called “blended learning” method. All kinds of information technologies are used in order to support the education process.

The main goal of the Institute of Physiology and Pathology of Hearing training program is to provide high quality training sessions, making use of the latest information technologies in order to improve the skills and knowledge of Polish doctors to a level comparable to the standards of the leading nations of the European Union.





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# A methodologist in the land of cochlear implants...

It is entirely thanks to the friendliness of the ESPCI 2009 organizers that I had the opportunity to write in the conference magazine. Thus, let me start by thanking them for having given me this honor.

Undeserved as the honor is, I will try to explain why they have given me a chance to address the conference. Briefly, the main reason may have to do with my unusual professional profile thinking of, let's say, the "average" conference attendee. As a professor in the Department of Social Psychology and Methodology of Behavioral Sciences at the University of Granada, I was not involved in the cochlear implant field at all a few years ago. I teach psychometrics to graduate students of Psychology. Furthermore, my research topics have been questionnaire adaptation and design over the last fifteen years. On top of that, they chose me out of 80000 people including students, professor, administration staff and service personnel; 28 different centres, 69 degree programs, 132 doctorate student programs, etc. You are right. It was surprising that someone like me would be attending the ESPCI 2009 conference with such an unlikely background.

For the last five years, I have consulted on various cross-cultural health surveys for public bodies such as the Spanish Statistical Institute and for private companies. As the person in charge, I took part in the design and adaptation of national and international health surveys such as the European Health Interview Survey, the Spanish National Health Survey, the Spanish Disability Survey, etc. I am also a member of several workgroups and task forces whose missions are to improve questionnaire and survey questions for both social and health research. Along with this experience in health topics, I became interested in the cochlear implant field thanks to the one of the most outstanding depar-

tments in cochlear implants in Spain: the ORL Service in the "San Cecilio" Hospital Clinic in Granada. Under the direction of Dr. Manuel Sainz, the service carries out impressive treatment and does some remarkable research. My first step in the cochlear implant field was to supervise two doctoral dissertations whose topics were to design questionnaires to measure auditory development and quality-of-life indicators.

Having hardly started working on adapting and designing subjective measures, I had to face a new challenge. I was invited by Prof. Henryk Skarżyński and his team to participate in the Remediation of Hearing Loss Project. Funded by the Marie Curie Host Fellowships for the Transfer of Knowledge, the main project objective was to transfer knowledge to the Institute of Physiology and Pathology of Hearing (Poland), and improve the skills of the Institute's researchers to perform advanced

Professionals involved in designing subjective measures must increasingly pay attention to the quality of our questionnaires, as users (patients, parents, stakeholders) will become knowledgeable about these assessment instruments thanks to the Internet, supporting associations, helping groups, etc.

research. Leaving aside project tasks related to electric and acoustic stimulation, within the task of developing new diagnostic methods the research team have conducted several investigations into adapting original versions of auditory questionnaires into Polish and designing questionnaires of subjective measures. Needless to say that both adaptation and design projects have been performed in accordance with professional standards. Let me say a few words about one of the projects in which I have been involved so as to illustrate the kind of project performed by the Polish research team.

The aim of the project was to adapt the LittleEARS questionnaire into Polish. The Polish research team became aware that the adaptation needed to be carried out according to guidelines proposed by professional organizations from the very beginning of the task. Before going any further, any adaptation process is not quite as simple as it could seem at first. Regardless of how experienced the translators might be, a good adaptation is not a simple matter of translation, as some or even many of the origi-

nal questions may well have subtle but important differences in interpretations when translated into another language. In addition, some words or expressions have no direct equivalents in the target language. In short, the belief that "anyone who knows the two languages can produce an acceptable translation of a test" is regarded by experts as naive and unrealistic. A "back-translation" method was used to assure identical or highly similar interpretations between the original version of the LittleEARS questionnaire and version translated into Polish. Although the back-translation method can help assure comparability of meanings across languages, subtle differences in languages, or the sometimes substantial differences in cultures of different countries using different languages, can affect the results obtained with the translated version. Thus, a full psychometric evaluation of the Polish version of the LittleEARS questionnaire was

king of the "high-stake" decisions which are made using these subjective scales, it is particularly crucial to follow high standards of quality in the field of cochlear implant. Fortunately, there are valuable guidelines and professional standards available such as Standards for Educational and Psychological Testing (AERA, APA, NCME, 1999), Guidelines for Test Adaptations (van de Vijver and Hambleton, 1996). I cannot help but recommend checking these documents before and through out the questionnaire adaptation or design processes. Professionals involved in designing subjective measures must increasingly pay attention to the quality of our questionnaires, as users (patients, parents, stakeholders, etc.) will become knowledgeable about these assessment instruments thanks to the Internet, supporting associations, helping groups, etc.

Lastly, I would like to thank to ESCPI 2009 organizers for inventing me to take part in the conference. I am absolutely convinced that the ESCPI 2009 will be a very exciting meeting not just for the topics that will be addressed, but also for the numerous opportunities to share experiences among professionals involved in the cochlear implant field from different perspectives. As you probably have been able to see from this article, I have become very fond of this research area; so enthusiastic that I hope to keep on researching subjective measures for cochlear implant interventions at least the coming years.

Questionnaires can be designed for a wide range of purposes and for very diverse populations. The quality of the information provided by questionnaires depends on to what extent questionnaire designers are aware of the methodology criteria that their tools must meet.

conducted in order to be confident about the validity of the results. Such demanding work could not have been done without the involvement in the project of focused and friendly Polish researchers among them, let me mention Artur Lorens, Anita Obrycka, and Agnieszka Pankowska as representatives of the Unit of Cochlear Implants at the Institute of Physiology and Pathology of Hearing.

Talking about professional standards and guidelines, I would like to get more out of this opportunity to insist on how important it is to meet them when developing subjective scales especially in the field of cochlear implants. Questionnaires can be designed for a wide range of purposes and for very diverse populations. The quality of the information provided by questionnaires depends on to what extent questionnaire designers are aware of the methodology criteria that their tools must meet. Questionnaire designers should make a solid case based on psychometric evidence to justify the use of the questionnaire instead of an alternative assessment device. Think-

# EXPERT'S MEETING on EDUCATION IN AUDIOLOGY AND OTOLOGY IN EUROPE (Friday, 15th May 2009)

**Chair: T. Lenarz; Moderators: B. Kollmeier, H. Verschuure; Participants: J. Durrant, A. Lorens**

First, Hans Verschuure described the development and different health models of audiology programmes in Europe. Currently, despite the growing need for specialists in that field, few formalised education facilities exist. In most European countries, diagnostic audiologist training is a medical speciality and together with phoniatrics is part of ENT training, although the education format and length differs from country to country. The general trend nowadays, especially in Germany, Poland and Switzerland, is heading towards formalisation and certification within the existing system.

Therefore, there is a need to describe curriculum and to decide on competencies on different levels of audiological education. At the end of the presentation, the question was posed: should more training in cochlear implant fitting be given to audiologists?

John Durrant's presentation explained a new professional audiology training project at the University of Pittsburg. The project is to serve mainly as a vehicle for developing an enhanced curriculum for pediatric education audiology and to stimulate greater interaction among audiologists, speech-language pathologists and educators. To address the diminishing number of educational audiologists in United States, the University of Pittsburg is currently broadening the spectrum of courses and specialisations offered.

The next lecture was presented by Artur Lorens. In Poland, training in audiology and other fields of hearing, voice and communication disorders is carried out at the undergraduate as well as postgraduate level. Audiology remains in the medical field and is joined in one speciality with phoniatrics. The training to become a specialist in audiology and phoniatrics lasts five years.

There are also other non-medical specialists working in the field of audiology, i.e. audiophonologists, speech pathologists, speech therapists working with the hearing impaired, clinical engineers and hearing aid fitting specialists. Birger Kollmeier started his speech by reminding the audience about the meeting in Bad



Zwischenahn, the main purpose of which, was to review the existing programmes in audiology in

Europe and to create guidelines for common interdisciplinary university education in audiology.

The European Federation of Audiology Societies (EFAS) concepts were overvie-

wed next. The main message stated that university training, regardless of its level, needs to be complemented by practical, clinical experience. This is especially true for students coming from other disciplines



# The 9th ESPCI press conference

During the second day of the ESPCI 2009 a press conference took place. Journalist were interested in the matters of conference, especially SRA electrode elaborated together by prof. H. Skarżyński and Cochlear Company.



## Drug Delivery – free papers session

Main topics of presentations by A. Chang, C. Jolly, H.N. Ibrahim and A. Lesinski-Schiedel were methods of direct drug delivery into the cochlea.

The primary goal, as formulated by A. Chang, was protecting the cells from damage due to the trauma caused by the insertion of implant electrode, thus improving post-operative residual hearing.

Another advantage would be long-term effects of drugs, which might prevent degeneration of the hair-cells, and/or prevent the growth of tissue around the implant electrode. Various methods of delivery were discussed, including pre-operative administration of a steroid through round window – as reported by A. Chang, application of a dedicated catheter inserted directly before electrode insertion, as proposed by C. Jolly, or using implant electrode as a tool for drug delivery.

The most interesting concept, application of non-liquid drugs, was formulated by A. Lesinski-Schiedel, who presented works of the team from Hannover. It consists in using nanoparticles embedded into the coating of the implant electrode. The particles are gradually released into the scala tympani providing curative effects over a long period of time. However, this method is on an early stage of development. Other methods are presently examined on animal models, or tested on dead temporal bone tissues. No clinical study was undertaken yet. The discussion concentrated on methods of testing and applicability of particular drug delivery methods. The most advanced study seems that presented by the team from Innsbruck (C. Jolly et al.), in which four different methods were compared, and practical application of them might be very close.



# Erased With a Rubber

An interview with Małgorzata Jeruzalska, an employee and patient of Institute of Physiology and Pathology of Hearing – Educator at the Implant and Auditory Perception Institute

## As a child you had acute hearing.

**MJ:** Yes. I was born with no hearing impairment and brought up in the world of sounds. My parents and the rest of the family could hear. I got to know the variety and the meaning of sounds. I learned to speak. I attended ordinary, public school.

## But the world of sounds started slipping away?

**MJ:** At 15, by chance, I was diagnosed with a fundamental hearing impairment, which got worse with every passing year. I could still hear low-pitched sounds but the higher ones were becoming more and more inaccessible to me. The auditory information was disappearing as if someone was erasing it. I didn't quite realise it. I didn't know what was happening. I was caught between the world of sounds and silence. It was difficult to grasp or interpret the ongoing changes. However, everyday situations were proving that I was different from other kids my age, who could hear well.

## What sort of alarming symptoms appeared first?

**MJ:** The first noticeable difficulties were related to speech comprehension. Even though general communication was intact, certain words would get distorted because of my inability to catch specific sounds. After some time, it became very apparent at school, especially when teachers were dictating notes. During lessons, it got more and more difficult to understand what the teacher was saying, what other children were saying. Unconsciously, I started lip-reading. It came very naturally to me.

## How did your impaired hearing effect your everyday life?

**MJ:** At home I would miss the doorbell ringing or kettle whistling, even when I was standing close to the source of the sound. I was still able to register a lot of low frequencies, but instead of clear speech I was receiving mumbling.

## Did your hearing deteriorate on a daily basis?

**MJ:** My hearing 'melted away' gradually, while the list of places where I would have difficulties communicating was growing rapidly. Staircases, corridors, buses, trams, department stores, the street, post office, public offices, coffee shops, theatres were all becoming ever so tricky for me.

## What were the psychological consequences?

**MJ:** I didn't engage in new challenges, I was afraid that I would not manage. I didn't feel in control of my life anymore. I was afraid to trust myself. It was all contributing to my feeling really low. My options seemed very limited to me, I wasn't as flexible as before. I couldn't develop the way I wanted, nor be a part of social or cultural life as fully as I would wish to. When I found out I was losing my hearing, I was in the final grade of primary school. I managed to finish high school and then went on to university. Living with a disability wasn't easy, but I learned to deal with it. I did wonder, however, how it



After activation of the implant, I could observe the changes happening every day. On one hand, I was filled with joy at the prospect of the huge possibilities now opening in front of me. But it was also a bumpy road.

would be when I started working. That was a new, unknown challenge. In the end, during my final year at university, I had to just dive in. The internships began and I had to become more active and assertive. The previous stability and order, in which I knew how to act, had ended. Everyday, I would wake up wondering if I could do it. I had to figure out new ways to cope. I felt exhausted and overloaded.

## Was that the reason you decided to have the operation?

**MJ:** Yes, in the end, it was. After years of fruitless attempts to find an appropriate hearing aid and trying to change the situation and seeking any kind of help, I was fortunate to meet a diagnostician, who suggested a cochlear implant. I got accepted for the operation and afterwards I started psycho-acoustic rehabilitation.

## What were the most noticeable changes?

**MJ:** It takes weeks, months even to get effects. Changes came gradually, but were noticeable. After a break of so many years, time was necessary to get used to the sounds I knew before and to learn new ones. But my life became easier. Now I have the means to express myself. I have access to the world. At last I feel in control of my life. The decisions I make are not bound up by my limitation anymore, but are related to the new opportunities stretching in front of me. I don't have to look at other people's lips so intently anymore. I don't have to ask for help, because I can hear. I know when the doorbell is ringing, when the water is boiling, when someone is calling for me from the corridor while I'm in the other room. I don't have to stand at the

window waiting if I invited somebody over. I feel more at ease joining a discussion or making new acquaintances. I don't feel dependent on other people anymore. I understand when someone's using a microphone, which used to be a nuisance to me before – it covered speaker's lips and altered the sound.

I am now able to listen to the radio and watch television. I get the message instantly and can express my opinion straight away. I can learn foreign languages and develop my music sensitivity. I get much more enjoyment from music now – I can now pick out triangle, orchestra bells, tubular bells, harp, flute, violin from the melody. I also enjoy the whistling of the wind, murmur of the sea, birds singing. Both as a performer and as a listener, I find that singing has a new dimension for me. I can distinguish the pitch, which I struggled with before. Sometimes I even get the lyrics.

## When did you decide to work with people with hearing impairments?

**MJ:** It didn't even cross my mind when I was choosing my major. When I started attending classes, however, with every step of my education my knowledge and experience grew, provoking thoughts of my future. "Where is my place", I was wondering? As I was coming to grips with my own disability, the topic was becoming more and more fascinating to me. By the time I was finishing my degree, I started seriously thinking of working with people with similar problems to mine.

## So you weren't sure? What was the deciding factor?

**MJ:** After activation of the implant, I could observe the changes happening every day.

I was comparing situations from before and after the operation. On one hand, I was filled with joy at the prospect of the huge possibilities now opening in front of me. But it was also a bumpy road. Everyone around me (family, friends, teachers) expected me to instantly comprehend everything. They were hoping that I would be able to use my new hearing to its full potential quickly. Not many people realise that the period of being surrounded by silence is not just a break from receiving sounds. There are some changes at the level of the auditory cortex, which reorganises itself, establishing new neuronal connections. My brain adjusted to a narrow range of frequencies and found a way to maximise the use of that information.

When it suddenly got exposed to a wider scope of sounds, at first, it couldn't make sense of them like it used to. Even I didn't understand what was happening at the beginning. Specialists from the Implant and Auditory Perception Institute, together with the rehabilitation staff of the Physiology and Pathology of Hearing Institute helped me find my feet in this new situation. Getting to know myself led to a better understanding of other people who went through the same ordeal. I wanted to help them deal with difficulties, so that they could use the full potential of their new hearing.

The specialists from the institute were enthusiastic about my idea and I started my work experience there. It was then that I finally made up my mind as to what I really wanted to do with my life – I was going to work with people who were returning to the world of sounds.

## What exactly does your work comprise of? Could you tell us about an ordinary day at work? In what way do your own experiences help?

**MJ:** My work is quite varied, it depends on the stage the patient is at when they arrive at the institute. If the person is about to be qualified for a cochlear implant, my aim is to get to know that person's current situation and to explain how the operation works. When the patient begins rehabilitation after the implant, I assist him or her with the transition through the subsequent stages. I can be there for that person through information meetings, hearing training, conversations. At the beginning of this journey, patients quickly realise they can pick up more sounds but it doesn't necessarily mean instant comprehension or better orientation in their surroundings.

Without adequate support and guidance, patients or the family (especially in the case of children) can start feeling discouraged, irritated and withdraw from the rehabilitation. Whereas, to be successful, rehabilitation needs to be run consistently. It is not equally easy for everyone to find their bearings in this unusual situation single-handed. My personal experiences make me more credible and are the motivation, the constant reminder, that it is worth taking small steps which ultimately lead to something bigger.

# In the flesh

Here is the place where we publish photographs of our guests and friends, met in the hotel lobby, between lectures and during sessions.

More of the photos you will find on our internet site , till May 18, 2009 visit [www.congresstribune.pl](http://www.congresstribune.pl)



# Gala

Adding splendour to Friday's sessions was the evening's Gala Dinner at Hilton Hotel. The numerous guests could not only feast on delicious food, but also enjoy the splendid classical and Polish folklore music of a violin duo. Julita and Paula Sokołowski, who in-

Prof. J. Helms,  
Prof. B. Wilson,  
Prof. Ch. Von Ilberg



Prof. S. Archbold with her husband



Toast of Friends For Ever: Prof. G Tavartiladze,  
Prof. B. Wilson, Prof. Ch. Von Ilberg,  
Prof. H. Skarżyński



Prof. J. Mueller and N. Giarbini



Prof. H. Skarżyński,  
Ms. E. Ludwikowska



Prof. J. Durrant  
and Prof. E. Hochmair



Julita and Paula Sokołowski

Guest of the Gala Dinner



# a Dinner

identally are also Friends Forever of the Institute, played so well that the audience requested several encores. Among them were the Simon and Garfunkel hit "Sound of Silence". After dessert, a toast was rased in the name of all the delegates by Prof. Skarzyński. Afterwards, Prof.

Paul van den Broek thanked the hosts for such a perfectly organised congress and even struck up a song for Professor Skarzyński - "For he's a jolly good fellow". He also uncovered his Friends Forever nameplate and received the traditional, symbolic Snail and Golden Patient's Card.



Prof. G. Babighian and Prof. Skarzyński



Toast to the President of the Congress by Prof. P. van den Broek



Dr L. Śliwa i doc. K. Kochanek with his wife



Congress orgnizers

THE INTERNATIONAL CENTER OF HEARING AND SPEECH IN KAJETANY

# Friends Forever

The Institute of Physiology and Pathology of Hearing would not have developed so quickly or achieved as much as it already has, if there were not so many devoted friends, both in Poland and abroad. Among them are well known institutions, foundations, as well as private investors and public figures. They are all united by the noble idea, which has no match in modern medicine.

Today, each visitor entering the International Center of Hearing and Speech in Kajetany passes the board detailing the people and institutions that have been awarded Friends Forever status. This again was Professor Skarżyński's idea as his way of appreciating people who had faith and trusted him and therefore, in one way or another, helped to develop the institute. Some of them shared their knowledge, laid their scientific authority on the line or simply gave their time and hearts for the project. Politicians provided their support and patronage for the idea, overstepping the boundaries of any political party ideology.

Artists offered their talents organizing concerts in order to raise money. Scientists from Europe and all over the world invited specialists from the institute to their laboratories, enabling them to develop their knowledge and learn from the best in the field. For many friends and sponsors, the decisive factor was the fact that the Institute takes care of so many children, for whom regaining of their hearing means returning to society and the chance to lead an active life. Others simply wanted to return the favour or show their solidarity with the less fortunate.

The "Friends Forever" board is vast, but still contains empty spaces, waiting for new friends.



## Journalists on Henryk Skarżyński



**The mark of the extraordinary genius of Prof. Henryk Skarżyński and his Institute is the positive energy he evokes. All of celebrities and well-known, popular journalists have always used superlatives to describe him, sometimes affectionately calling Professor Homo Henricus (Janusz Michalak) or the Magician (Agata Młynarska). Here are a few accounts:**

"During last 15 years I managed to change my employer several times, but Prof. Skarżyński stays the same: full of energy and ideas, amazing manager, a go-getter who, despite all everyday problems, constantly smiles; he is kind and friendly and, on top of that, still remains a great physi-

cian and scientist. For me, the day consists of 24 hours. Looking at the Professor, one would have to assume, it is much longer than that. He always has time for us, journalists, usually after 10pm. He should be an example for other doctors, managers, PR specialists and journalists."

Zbigniew Wojtasiński, "Wprost" weekly magazine

"(...) 10 years ago I met a man who enchanted me. He spoke about medicine as if he was predisposed to magically perform miracles. Owing to his hard work, patience and determination, he makes miracles for the benefit of other people. And for that, Henryk, I admire you."

Artur Wolski, Polish Radio 1

**TOMORROW ON ESPCI:**

- Bilateral and bimodal stimulation
- Auditory brainstem implants
- Middle ear implants - round table

**TOMORROW IN THE CONGRESS TRIBUNE:**

- An interview with Prof. Henryk Skarżyński
- Garden Party in Kajetany - full coverage
- Everything about the 10th ESPCI in Athens

Dear Guests!  
Please, note that Congress Tribune will regularly appear on the website with updated information. You may put in current information on the upcoming conferences. We kindly invite you to visit [www.congresstribune.pl](http://www.congresstribune.pl)