

29th Congress of Union of the European Phoniatricians

June 13-16, 2018, Helsinki, Finland

Organized by Union of
the European Phoniatricians and
Finnish Phoniatric Society



Program and
abstract book



Welcome

WELCOME TO HELSINKI AND THE 29TH UEP CONGRESS.

While writing this welcome message to our participants, it came to my mind how challenging and pleasant the arrangement of this congress has been to the members of the organizing committee and to me. UEP congresses always give the feeling of meeting your extended family, and we are always happy to meet our old friends and make new ones.

This time we are happily in Helsinki, Finland, also known as the happiest country in the world. This comes after 40 years from last time we hosted a UEP congress in Finland, and 70 years from the start of our specialty in this happy country.

We already crossed the number of 410 participants and this is, so far, the biggest number of participants achieved in any UEP Congress. Also, the diversity of countries from which our participants are coming is just showing another example of how International the UEP has become.

All this would not have been possible without the support of the Finnish organizing committee that exerted excellent effort for this meeting and its arrangement. I am very happy by the positive feedback we have been getting from colleagues on the rich program we have. I am indebted to the Faculty of the congress who worked hard to construct the wonderful scientific program that you will enjoy during the congress.

The commercial exhibition and sponsorship have been planned in an excellent spirit of scientific responsibility and friendship. I am thankful to all our sponsors and exhibitors for their cooperation.

Thanks also to the Federation of Finnish Learned Societies, City of Helsinki and Finair for their support. The congress bureau Confedent proved again to be an excellent companion for arranging international congresses in Finland.

Poster tours are designed to draw attention to the posters. Kindly find information on them in this program book. The congress also includes an Art Gallery with installation (Vocological studies), please try to pass by, I am sure you will like it.

I know that the timetable is tight, and the program is rich. However, the venue is chosen just to make you close to the Senate Square, market place and of course to the sea breeze. Try to take a make a quick visit during the busy program. Also, do not forget to try the Finnish sauna, a wonderful experience by itself.

So again, welcome to happy Finland, it is a pleasure to meet you here.

Ahmed Geneid
President of the 29th UEP Congress
Head of the Department of Phoniatics
Helsinki University Hospital and University of Helsinki



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Welcome

DEAR COLLEAGUES, DEAR FRIENDS

It is a great pleasure to see the prospering of the Union of the European Phoniatrians, UEP, with more than 320 members from four continents. Our main task is to bring together colleagues from all countries who have put the European model of Phoniatics into practice. Besides solving professional problems, the UEP aims at scientific cooperation and the exchange of expert knowledge and clinical experience in close collaboration with the European Academy of Phoniatics, EAP, its new President Prof. Tadeus Nawka and his team. Together with the European Union of Medical Specialists we will do further work on training programs and training standards.

It makes me very happy and proud that, in the forefront of the congress in Helsinki, the Congress President Assoc. Prof. Ahmed Geneid and his team already have managed to attract about 410 registrations. An overwhelming multitude of abstracts was submitted. Congratulations!

Let us gratefully and festively celebrate – together with all our interdisciplinary friends – this upcoming congress, 40 years since the Finnish Phoniatrians Association hosted the last UEP Congress in Finland and let us celebrate 70 years of Phoniatics in Finland.

Cordially, yours,
Prof. Antoinette am Zehnhoff-Dinnesen, President of UEP

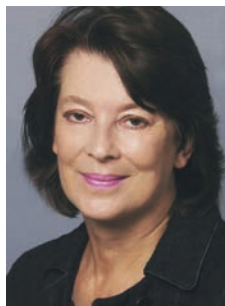
DEAR FRIENDS,

The medical specialty of Phoniatics in Europe is almost 120 years old. In Finland it is 70 years old. Our history is the history of great personalities, e.g. Hermann Gutzmann sn, who had the vision and the means to make the plans true. In Finland one of the great persons was Professor Aatto Sonninen who was active in the phoniatic science as well as in making international connections. Thanks to him and his colleagues, our Phoniatic Society was born in January 1972 and the previous UEP congress in Finland was held in Jyväskylä in 1978.

Since the 1978 UEP congress, the number of phoniatic professionals has grown greatly and the variety of the disciplines in our phoniatic teams has become wide. Still, our specialty is small in terms of the number of medical doctors specialized in it. We definitely need international co-operation to develop the phoniatic science and treatment for the best of our patients.

Welcome to Helsinki and let us learn to know and learn from each other!

Mari Qvarnström, MD, Ph.D., Phoniatician
President of the Finnish Phoniatic Society
Head of the phoniatic department of Kuopio University Hospital



FINNISH ORGANIZING COMMITTEE

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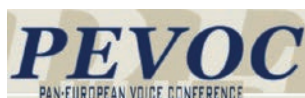
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Representative of UEP members in Russia, former Soviet Republics and Asian-Pacific Region
Assoc. Prof. *Ekaterina Osipenko*, Russia

Partner Organizations

THE ORGANIZING COMMITTEE

is thankful to the organizations below for the help they offered in the organization of the scientific program and/or the announcement of the congress to their members.



THE FINNISH SOCIETY FOR LARYNGOLOGY



IAPA
International Association of
Physicians in Audiology



KORVA-, NENÄ- JA KURKKUTAUDIT
- PÄÄN JA KAULAN KIRURGIA RY



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FINSK FÖRENING FÖR TAL- OCH SPRÅKFÖRSKNING
FINNISH ASSOCIATION OF SPEECH AND LANGUAGE RESEARCH



CSHA
Changing Lives Through Communication

EACCME Accreditation

THE 29TH CONGRESS OF THE UNION OF THE EUROPEAN PHONIATRICIANS

Phoniatrics: The Medical Specialty of Communication and Swallowing, Helsinki, Finland, 13/06/2018-16/06/2018" has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with **20 European CME credits** (ECMEC®s).

Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

Through an agreement between the Union Européenne des Médecins Spécialistes and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of AMA PRA Category 1 Credits. Information on the process to convert EACCME® credit to AMA credit can be found at www.ama-assn.org/education/earn-credit-participation-international-activities



Information

REGISTRATION DESK OPENING TIMES

HELSINKI UNIVERSITY GREAT HALL, Aleksanterinkatu 5
Wednesday 13.6. 16.00-19:00

VENUE

MARINA CONGRESS CENTER, Katajanokanlaituri 6

Thursday	14.6.	7:30-17:30
Friday	15.6.	8:30-17:30
Saturday	16.6.	8:30-13:00

INSURANCE AND LIABILITY

The Congress organizers cannot accept liability for personal injuries sustained, for loss of, or damage to property belonging to participants (or their accompanying persons), either during or as a result of the Congress. The registration fees do not include insurance of any kind so please check the validity and coverage of your own travel insurance.

IMPORTANT NUMBERS

General emergency number	112
Helsinki taxi booking	+358 100 0700

WI-FI

Marina Congress Center features complimentary wireless internet access ("scandic_easy") in all the public and conference areas as well as hotel Scandic Gran Marina. No password is required. To log in, select "Click to Connect", then use your name and phone number and accept the terms of use before you Click to Connect.

MEETINGS OF THE UEP BOARD AND COMMITTEES

PLACE: meetings are to be held in Meeting room 4

14.6.2018	Educational committee of phoniatrics of the IALP	13:30-14:30
	Voice Committee	15:00-16:00
	UEP Board Meeting	17:00-18:00
15.6.2018	Swallowing Committee	07:00-08:30
	Language Speech Literacy Committee	13:45-14:30
16.6.2018	Hearing Committee	10:15-11:15

FACULTY OF THE 29TH UEP CONGRESS

A

Leena-Maija Aaltonen *Finland*
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 Tamer Abou El Saad *Egypt*
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 Natallia Kanoika *Belarus*
 Yakubu Karagama *UK*
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 Irina Katsarava *Georgia*
 Erna Kentala *Finland*
 Robert Kesmarszky *Hungary*
 Teemu Kinnari *Finland*
 Norbert Kleinsasser *Germany*
 Tuomas Klockars *Finland*
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 Nasser Kotby *Egypt*
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L

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 Silvia Martinez *USA*
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 Katrin Neumann *Germany*
 Christiane Neuschaefer-Rube *Germany*
 Elina Niemitalo-Haapola *Finland*
 Johanna Nokso-Koivisto *Finland*

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 Ekaterina Osipenko *Russia*

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 Judith Page *USA*
 Lisa Popeil *USA*
 Claus Pototschnig *Austria*

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 Mari Qvarnström *Finland*

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 Sabrina Regele *Germany*
 Petri Reijonen *Finland*

Heikki Rihkanen *Finland*
 John Rubin *Britain*
 Anar Rustamov *Azerbaijan*
 Miia Ruuskanen *Finland*
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 Wiebke Scharff- Rethfeldt *Germany*
 Antonio Schindler *Italy*
 Josef Schlörmicher-Thier *Austria*
 Berit Schneider-Stickler *Austria*
 Jean Schoentgen *Belgium*
 Mariam Shadi *Egypt*
 Sini Smolander *Finland*
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 Dinara Toguzbayeva *Kazakhstan*
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U

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V

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 Erkki Vilkmán *Finland*
 Taina Välimaa *Finland*

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 Greta Wistbacka *Finland*
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Z

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The organizers of the 29th Congress of Union of The European Phoniaticians would like to warmly thank the following companies that have contributed to the success of the congress.

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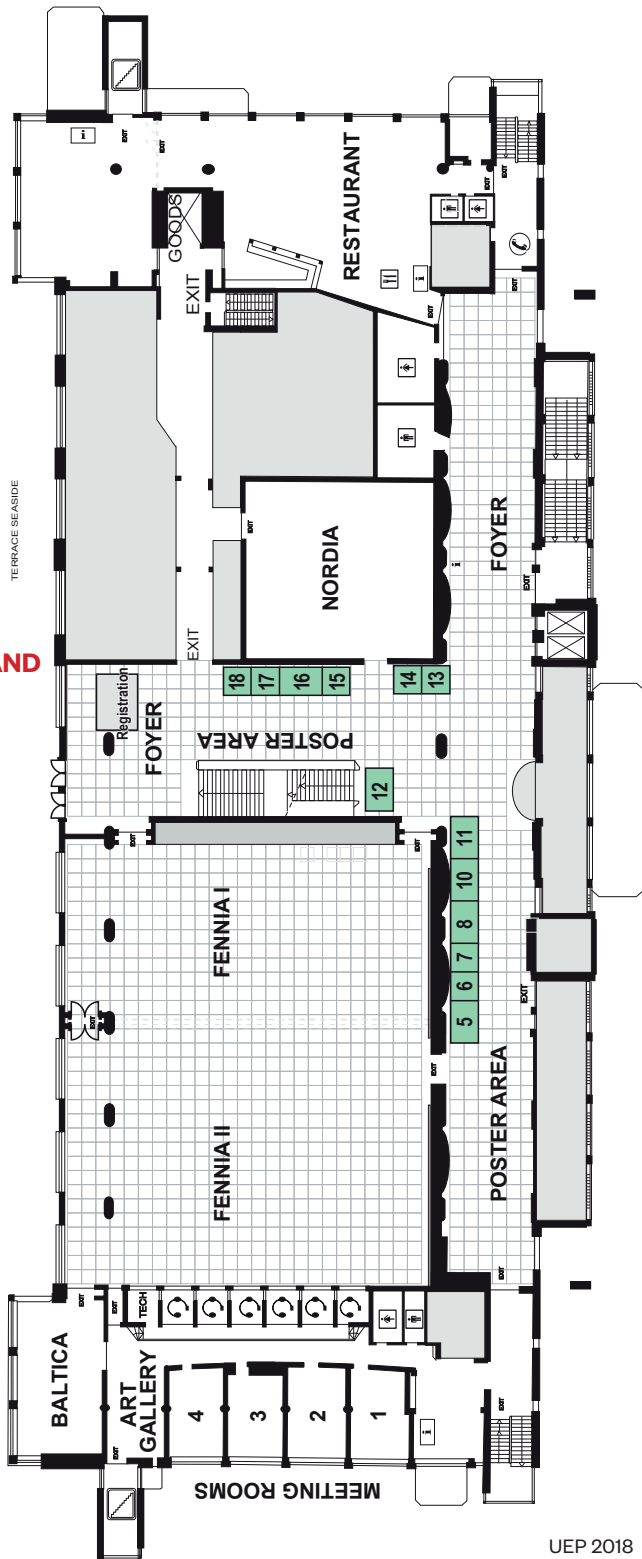
EXHIBITORS



Venue

MARINA CONGRESS CENTER
Katanokanlaituri 6,
00160 Helsinki

ORGANIZATION	STAND
Olympus	5
Aurismed As	6
UEP	7
FAHL	8
Dual Laser Ltd Oy	10
Oticon Medical	11
Soluvos Medical BV	12
A.R.C. Laser GmbH	13
Xion GmbH	14
Atos Medical	15
Karl Storz Se & Co. Kg	16
WEVOSYS	17
Immuno Diagnostic Oy	18



Wednesday 13/6/2018

Time

17:00-18:30 **Opening ceremony:** Helsinki University Great Hall, Aleksanterinkatu 5, Helsinki.

Walking to the City Hall, about 400 meters

19:00-20:30 **Get together,** Helsinki City Hall, Pohjoisesplanadi 11-13, Helsinki

Thursday 14/6/2018

Time	Fennia 1	Fennia 2	Nordia	Baltica
8:30-9:15	KEYNOTE: CARE OF THE PROFESSIONAL VOICE			
9:15-9:30	Break			
9:30-11:00	ROUNDTABLE: MANAGEMENT OF BENIGN VOCAL FOLD LESIONS.	ROUNDTABLE: A MULTIDISCIPLINARY LENS ON DEVELOPMENTAL LANGUAGE DISORDER - HELSINKI LONGITUDINAL SLI STUDY (HELSLI)	ROUNDTABLE: FINDINGS OF ESSENTIAL INSTRUMENTAL ASSESSMENT OF SWALLOWING IN NORMAL AND DISTURBED CONDITIONS	RESEARCH FORUM ON TUBES AND HUMIDIFICATION IN VOICE THERAPY.
11:00-11:30	Coffee, Posters and Exhibition. Poster tours 1 and 2 from 11:00 to 11:20			
11:30-12:10	ROUNDTABLE: VOICE ERGONOMICS, WHAT IS NEW?	ROUNDTABLE: ARE PARENTS' AND PROFESSIONALS' PERCEPTIONS ON CHILD'S DEVELOPMENT CONGRUENT WITH EACH OTHER?	ROUNDTABLE: ASSESSMENT OF PEDIATRIC SWALLOWING DISORDERS, STATE OF THE ART (50 min)	RESEARCH FORUM: AUDIOLOGY
12:15-13:00		RESEARCH FORUM: NEW IN LARYNGEAL SURGERY AND INTUBATION	ROUNDTABLE: MANAGEMENT OF PEDIATRIC SWALLOWING DISORDERS, WHAT IS NEW? (40 min)	RESEARCH FORUM: ON SINGING, VOCAL TRACT AND REHABILITATION: WHAT IS NEW?
13:00-14:00	Lunch			
14:00-14:45	KEYNOTE: LANGUAGE DISORDERS AMONG MULTICULTURAL CHILDREN			
14:45-15:00	Break			
15:00-15:40	ROUNDTABLE: ALTERATION OF THE VOICE PITCH (60 min)	RESEARCH FORUM: ASSESSMENT AND MANAGEMENT IN MULTILINGUALISM	RESEARCH FORUM: SWALLOWING DIAGNOSTICS	RESEARCH FORUM: WHAT IS NEW IN VOICE AND LARYNGEAL SURGERY?
15:45-16:30	WORKSHOP: CLINICAL APPROACH OF VOICE PROBLEMS (30 min)	ROUNDTABLE: BEYOND THE IDENTIFICATION OF LANGUAGE IMPAIRMENT IN MULTILINGUAL CHILDREN: CURRENT ISSUES IN EFFECTIVE SERVICE DELIVERY	ROUNDTABLE: LOW DYSPHAGIA: ASSESSMENT IN A MULTIDISCIPLINARY PERSPECTIVE	ROUNDTABLE: LARYNGEAL LASER SURGERY AND ITS OUTCOMES ON VOICE
16:30-17:00	Coffee, Posters and Exhibition. Poster tours 3 and 4 from 16:30-16:50			
17:00-18:00	ROUNDTABLE: NEW FIELDS OF APPLICATION FOR ELECTRODIAGNOSTICS AND ELECTROTHERAPY	ROUNDTABLE: SPEECH AND LANGUAGE DEVELOPMENT IN CHILDREN WITH HEARING IMPAIRMENT	ROUNDTABLE: MULTIDISCIPLINARY TEAMS IN SWALLOWING CENTERS	WORKSHOP: USING YOUR EAR FOR ACCURATE DIAGNOSIS OF HOARSENESS WORKSHOP: APDVOICE - AN EASILY ONLINE AVAILABLE DATABASE SYSTEM FOR A PHONiatric CLINICS
18:00-18:45	GENERAL ASSEMBLY OF UNION OF THE EUROPEAN PHONiatricIANS			
19:00-23:00	Optional Social Program			

VOICE

SPEECH AND
LANGUAGE

SWALLOWING

AUDIOLOGY

Thursday 14/6/2018

INVITED KEYNOTE SPEAKERS HALL: FENNIA 2

TIME	ABSTRACT REFERENCE	HALL FENNIA 2
8:30-9:15	S074	CARE OF THE PROFESSIONAL VOICE, MICHAEL BENNINGER (USA) Chair: Ahmed Geneid (Finland)
9:15-9:30	Break	
14:00-14:45		LANGUAGE DISORDERS AMONG MULTICULTURAL CHILDREN, ELIN THORDARDOTTIR (CANADA, ICELAND) Chair: Dirk Deuster (Germany)

14:45-15:00 **Break**

UEP GENERAL ASSEMBLY AND SOCIAL PROGRAM

TIME	HALL FENNIA 1
18:00-18:45	General assembly of Union of the European Phoniaticians
19:00-23:00	Optional Social Program

FENNIA 1

TIME ABSTRACT HALL REFERENCE FENNIA 1

9:30-11:00	S157	ROUNDTABLE: MANAGEMENT OF BENIGN VOCAL FOLD LESIONS Moderator: Teemu Kinnari (Finland) Speakers: Michael Benninger (USA) Markus Hess (Germany) Heikki Rihkanen (Finland) John Rubin (UK) With Keynote presentation by Norbert Kleinsasser, Management of Reinke edema with flaps (Germany)
11:00-11:30	Coffee, Posters and Exhibition Poster tours 1 and 2 from 11:00 to 11:20	
11:30-13:00	S066	ROUNDTABLE: VOICE ERGONOMICS, WHAT IS NEW? Moderator: Leena Rantala (Finland) Speakers: Leena Rantala (Finland) Sofia Holmqvist (Finland) Anita McAllister (Sweden) Eeva Sala (Finland)
13:00-14:00	Lunch	
15:00-16:00	S155 & S141	ROUNDTABLE: ALTERATION OF THE VOICE PITCH Moderator: Teemu Kinnari (Finland) Speakers: Teemu Kinnari (Finland) Gauthier Desuter (Belgium) James Thomas (USA) With Keynote presentation by Dirk Deuster, Voice in female-to-male transsexuals Deuster Dirk , Peter Matulat, Antoinette am Zehnhoff-Dinnesen (Germany)
16:00-16:30	S197	WORKSHOP: CLINICAL APPROACH OF VOICE PROBLEMS Speaker: Felix De Jong (Netherlands, Belgium)
16:30-17:00	Coffee, Posters and Exhibition Poster tours 3 and 4 from 16:30-16:50	
17:00-18:00	S192	ROUNDTABLE: NEW FIELDS OF APPLICATION FOR ELECTRO-DIAGNOSTICS AND ELECTROTHERAPY Moderator: Berit Schneider-Stickler (Austria) Speakers: Berit Schneider-Stickler (Austria) Claus Pototschnig (Austria) Markus Gugatschka (Austria) Virginie Woisard (France)

FENNIA 2

TIME	ABSTRACT REFERENCE	HALL FENNIA 2
9:30-11:00	S092	ROUNDTABLE: A MULTIDISCIPLINARY LENS ON DEVELOPMENTAL LANGUAGE DISORDER - HELSINKI LONGITUDINAL SLI STUDY (HELSLI) Moderator: Marja Laasonen (Finland) Speakers: Marja Laasonen (Finland) Eva Arkkila (Finland) Sini Smolander (Finland) Pekka Lahti-Nuuttila (Finland) Miika Leminen (Finland) Sari Kunnari (Finland)
11:00-11:30		Coffee, Posters and Exhibition Poster tours 1 and 2 from 11:00 to 11:20
11:30-12:10	S035	ROUNDTABLE: ARE PARENTS' AND PROFESSIONALS' PERCEPTIONS ON CHILD'S DEVELOPMENT CONGRUENT WITH EACH OTHER? Moderator: Kerttu Huttunen (Finland) Speakers: Wiebke Scharff Rethfeldt (Germany) Elin Thordardottir (Canada, Iceland) Kerttu Huttunen (Finland)
12:15-13:00		RESEARCH FORUM: NEW IN LARYNGEAL SURGERY AND INTUBATION Chair: Hans Mahieu (Netherlands) Moderator: Sergey Karpishchenko (Russia)
12:15-12:30	R096	Keynote speaker Size does matter. First experiences in laryngological cases with a small 2.4 mm endotracheal tube Hans Mahieu , Derrek Heuveling, Jose van der Hoorn (Netherlands)
12:30-12:40	R211	Endoscopic management of Laryngotracheal Stenosis Using Diode Laser and Balloon Dilation Sergey Karpishchenko, Marina Ryabova, Mikhail Ulupov (Russia)
12:40-12:50	R079	Laryngeal Findings after Prolonged Endotracheal Intubation in adult patients Hatem Ezzeldin Hassan, Ayman Mohamed Shawky , Hossam Eldosouky, Mohamed Saud (Egypt and Saudi Arabia)
12:50-13:00	R213	Surgery of Laryngeal Cancer Using Diode Laser Sergey Karpishchenko, Marina Ryabova , Mikhail Ulupov (Russia)
13:00-14:00		Lunch

15:00-15:40		RESEARCH FORUM: ASSESSMENT AND MANAGEMENT IN MULTILINGUALISM Chair: Elina Mainela-Arnold (Finland) Moderator: Brigitte Eisenwort (Austria)
15:00-15:10	R027	Multilingual assessment of language impairment: Searching for markers for specific language impairment Brigitte Eisenwort (Austria)
15:10-15:20	R153	Assessing and describing simultaneous bilingual development of hearing children of Deaf parents Laura Kanto (Finland)
15:20-15:30	R093	Cognitive language learning mechanisms in bilingual and monolingual children with and without developmental language disorder Elina Mainela-Arnold , Ji Sook Park, Carol Miller, Janet van Hell, Daniel Weiss, David Rosenbaum, Teenu Sanjeevan (Finland, Canada and USA)
15:30-15:40	R180	Bilingual intervention using ABA methods in United Arab Emirates: Preliminary findings Saleh Shaalan , Kerry Egan, Dan Gould, Pam Olsen (United Arab Emirates)
15:45-16:30	S112	ROUNDTABLE: BEYOND THE IDENTIFICATION OF LANGUAGE IMPAIRMENT IN MULTILINGUAL CHILDREN: CURRENT ISSUES IN EFFECTIVE SERVICE DELIVERY Moderator: Elin Thordardottir (Canada, Iceland) Speakers: Elin Thordardottir (Canada, Iceland) Wiebke Scharff-Rethfeldt (Germany) Eva-Kristina Salameh (Sweden)
16:30-17:00		Coffee, Posters and Exhibition Poster tours 3 and 4 from 16:30-16:50
17:00-18:00	S067	ROUNDTABLE: SPEECH AND LANGUAGE DEVELOPMENT IN CHILDREN WITH HEARING IMPAIRMENT Moderator: Sanna Häkli (Finland) Speakers: Ulrika Löfkvist (Norway) Sari Kunnari (Finland) Taina Välimaa (Finland) Krista Wallenius (Finland) Dirk Mürbe (Germany)

NORDIA

TIME	ABSTRACT REFERENCE	HALL NORDIA
9:30-11:00	S208	ROUNDTABLE: FINDINGS OF ESSENTIAL INSTRUMENTAL ASSESSMENT OF SWALLOWING IN NORMAL AND DISTURBED CONDITIONS Moderator: Antonio Schindler (Italy) Speakers: Tamer Abou El Saad (Egypt) Daniele Farneti (Italy) Antonio Schindler (Italy) Perttu Arkkila (Finland) Sébastien Van der Vorst (Belgium)
	S223	With oral presentation on Globus and the need for investigations: what research tells us? Pia Järvenpää (Finland)
11:00-11:30		Coffee, Posters and Exhibition Poster tours 1 and 2 from 11:00 to 11:20
11:30-12:20	S144	ROUNDTABLE: ASSESSMENT OF PEDIATRIC SWALLOWING DISORDERS, STATE OF THE ART Moderator: Johanna Nokso-Koivisto (Finland) Speakers: Mariam Shadi (Egypt) Samia Bassiouny (Egypt) Maria Andrea Lopez Salcedo (Spain)
12:20-13:00	S123	ROUNDTABLE: MANAGEMENT OF PEDIATRIC SWALLOWING DISORDERS, WHAT IS NEW? Moderator: Pascale Fichaux Bourin (France) Speakers: Pascale Fichaux Bourin (France) Tamer Abou-ElSaad (Egypt) Daniele Farneti (Italy)
13:00-14:00		Lunch
15:00-15:40		RESEARCH FORUM: SWALLOWING DIAGNOSTICS Chair: Samia Bassiouny (Egypt) Moderator: Mariam Shadi (Egypt) Speakers:
15:00-15:10	R111	Anatomical based FEES residue rating scale Tamer Abou-ElSaad , Ashraf El-Mitwalli, James Coyle, Aliaa Sabry (Egypt and USA)
15:10-15:20	R183	The endoscopic evaluation of the oral phase of swallowing (Oral-FEES, O-FEES): a new procedure proposal. Daniele Farneti , Bruno Fattori, Luca Bastiani (Italy)
15:20-15:30	R184	Aspiration: diagnostic contributions from bedside swallowing evaluation and endoscopy. Daniele Farneti , Valentina Turrone, Elisabetta Genovese (Italy)

15:30-15:40	R120	Transdisciplinary Assessment of Dysphagia in Clinical Settings Tarja Kukkonen (Finland)
15:45-16:30	S181	ROUNDTABLE: LOW DYSPHAGIA: ASSESSMENT IN A MULTIDISCIPLINARY PERSPECTIVE Moderator: Daniele Farneti (Italy) Speakers: Daniele Farneti (Italy) Perttu Arkkila (Finland) Gilles Delahaut & Hélène Antoine (Belgium)
16:30-17:00		Coffee, Posters and Exhibition Poster tours 3 and 4 from 16:30-16:50
17:00-18:00	S219	ROUNDTABLE: MULTIDISCIPLINARY TEAMS IN SWALLOWING CENTERS Moderator: Antonio Schindler (Italy) Speakers: Antonio Schindler (Italy) Leena-Maija Aaltonen (Finland) Kaarina Ruusuvirta (Finland) Minna Apajalahti (Finland) Perttu Arkkila (Finland) Gauthier Desuter (Belgium)

BALTICA

TIME	ABSTRACT REFERENCE	HALL BALTICA
9:30-11:00		RESEARCH FORUM ON TUBES AND HUMIDIFICATION IN VOICE THERAPY Chair: Franco Fussi (Italy) Moderator: Anne-Maria Laukkanen (Finland)
9:30-9:50	R202	Keynote speaker Tubes in voice therapy? What research tells us. Anne-Maria Laukkanen (Finland)
9:50-10:05	R083	Keynote speaker Semi Obstructive Vocal Tract Exercises: A Multidimensional Approach Ilter Denizoglu (Turkey)
10:05-10:15	R087	Modelling study of the physical background for voice therapy with tubes Jaromír Horáček , Vojtěch Radolf, AM Laukkanen (Czech Republic and Finland)
10:15-10:25	R048	The bubble-mask: application of a new SOFT device for vocal warm-up Franco Fussi (Italy)
10:25-10:35	R034	Warmed and humidified air and counter pressure in alleviating voice symptoms Kerttu Huttunen, Leena Rantala (Finland)
10:35-10:45	R080	A New Treatment Method for Puberphonia: DoctorVox Therapy with High Backpressure Ilter Denizoglu and Mustafa Sahin (Turkey)
10:45-11:00		Roundtable: The present and future of tubes and humidification in voice therapy. Marketta Sihvo (Finland) Anne-Maria Laukkanen (Finland) Ilter Denizoglu (Turkey) Jaromír Horáček (Czech Republic) Franco Fussi (Italy) Leena Rantala (Finland)
11:00-11:30		Coffee, Posters and Exhibition Poster tours 1 and 2 from 11:00 to 11:20
11:30-12:10		RESEARCH FORUM: AUDIOLOGY Chair: Katrin Neumann (Germany) Moderator: Jakub Dršata (Czech Republic)
11:30-11:40	R101	Speakers: The band-aid-fixed bone conduction hearing aid ADHEAR – useful for children with conductive hearing loss. Katrin Neumann , Jan Peter Thomas, Christiane Völter, Stefan Dazert (Germany)
11:40-11:50	R139	Impact of radiation technique and fraction dose on hearing impairment in platinum-treated pediatric medulloblastoma patients. Amelie Tillmanns , Sergiu Scobioala, Ross Parfitt, Peter Matulat, Mohammed Channaoui, Heidi Wolters, Hans Theodor Eich, Antoinette am Zehnhoff-Dinnesen (Germany)
11:50-12:00	R143	Factors Influencing Hearing Aid Use in Old Age. Libor Černý , Jan Vokřál, Olga Dlouhá (Czech Republic)

12:00-12:10	R161	Acute Unilateral Vestibular Failure - a pilot study of Rheohaemapheresis and Steroid therapy. Jakub Dršata , Milan Bláha, Jan Mejzlik, Michal Janouch, Milan Košťál, Viktor Chrobok (Czech Republic)
12:15-13:00		RESEARCH FORUM: ON SINGING, VOCAL TRACT AND REHABILITATION: WHAT IS NEW? Chair: Rodica Elena Muresan (Romania) Moderator: Louisa Traser (Switzerland)
12:15-12:25	R188	Adaptations of the respiratory system for phonation of pitch jumps – a real-time MRI study Louisa Traser , Fabian Burk, Ali Caglar Özen, Michael Burdumy, Michael Bock, Daniela Blaser, Bernhard Richter, Matthias Echternach (Switzerland and Germany)
12:25-12:35	R119	Laryngeal and pharyngeal movements during inner singing Carmen Unterhofer , Maria Buchberger, Lena Richter, Simone Graf (Germany)
12:35-12:45	R116	Visual feedback in voice rehabilitation for professional singers Rodica Elena Muresan , Alexandra Sabina Pop (Romania)
12:45-12:55	R124	Vocal tract adjustment without Phonation – A prospective Study Simone Graf , Lena Richter, Patrick Hoyer (Germany)
12:55-13:00		Discussion
13:00-14:00		Lunch
15:00-15:40		RESEARCH FORUM: WHAT IS NEW IN VOICE AND LARYNGEAL SURGERY? Chair: Antoine Giovanni (France) Moderator: Yakubu Karagama (UK)
15:00-15:15	R125	Keynote speaker Spasmodic Dysphonia: Botox injection vs Surgical options Yakubu Karagama (UK)
15:15-15:30	R097	Keynote speaker Adipose-derived stromal vascular fraction in scarred vocal folds: first results of a phase I/II trial Alexia Mattei , Jérémy Magalon, Baptiste Bertrand, Cécile Philandrianos, Julie Veran, Patrick Dessi, Florence Sabatier, Antoine Giovanni (France)
15:30-15:40	R212	Diode Laser in Recurrent Respiratory Papillomatosis Surgery Sergey Karpishchenko , Marina Ryabova , Mikhail Ulupov, Gleb Portnov (Russia)
15:45-16:30	S182	ROUNDTABLE: LARYNGEAL LASER SURGERY AND ITS OUTCOMES ON VOICE Moderator: Lise Crevier Buchman (France) Speakers: Lise Crevier Buchman (France) Sergey Karpischenko (Russia) Yakubu Karagama (UK)
16:30-17:00		Coffee, Posters and Exhibition. Poster tours 3 and 4 from 16:30-16:50
17:00-17:30	S043	WORKSHOP: USING YOUR EAR FOR ACCURATE DIAGNOSIS OF HOARSENESS James Thomas (USA)
17:30-18:00	S075	WORKSHOP: APDVOICE - AN EASILY ONLINE AVAILABLE DATABASE SYSTEM FOR A PHONiatric CLINICS Ramil Hashimli and Anar Rustamov (Azerbaijan)

POSTER TOUR 1 (VOICE)

GUIDE: Hans Mahieu (Netherlands)

REF	TITLE
P013	Incidence of vocal cord paresis as a consequence of a surgical complication Maria Heikkinen, Svante Halttunen, Markku Terävä, Jussi Kärkkäinen, Heikki Löppönen, Elina Penttilä (Finland)
P018	Laryngeal granuloma under Phoniatician umbrella Sanja Krejovic Trivic, Milan Vukasinovic, Jovica Milovanovic, Vojko Djukic, Aleksandar Ugrinovic, Aleksandar Trivic (Serbia)
P049	Treatment of Ventricular Dysphonia by Botulinum Toxin Injection Reham Abdelwakil Ibrahim Mohamed (Egypt)
P131	Association between aggressive recurrent respiratory papillomatosis and HLA-DQ alleles Olga Kolesnikova, Sergey Karpishchenko, Marina Ryabova (Russian Federation)
P108	Significance of Pepsin from Saliva in Diagnosis and Treatment of Laryngopharyngeal Reflux Zeljka Laksar Klaric, Darija Birtic (Croatia)
P094	Irritable larynx syndrome and problems with indoor air at work – preliminary results Sarkku Vilpas, Eliina Kankare, Jussi Karjalainen, Lauri Lehtimäki, Jura Numminen, Pia Nynäs, Antti Tikkakoski, Jukka Uitti, Leenamajja Kleemola (Finland)
P163	Boost irradiation as a treatment option of the recurrent carcinoma in situ of the larynx Antonia Nolte, Cornelia Hornberger, Peter K. Plinkert, Nikolaus Bosch (Germany)

POSTER TOUR 2 (MISCELLANEA)

GUIDE: Suvi Stolt (Finland)

P185	Good rehabilitation practice - Group Counselling and Augmentative and Alternative Communication Jaana Reuter (Finland)
P008	Aspiration and treatment of dysphagia in adults with intellectual disability: Research plan Minttu Sauna-aho, Ahmed Geneid, Leena Tuomiranta, Kaisa Launonen (Finland)
P127	Scale of assessment of myofunctional disorders of the maxillofacial region in children Galina Tarasova, Olga Orlova (Russian Federation)
P099	Text analyser for efficient generation of Mandarin oral reading test materials for hearing impaired children Yu-Chen Hung, Wen-Jet Wang, Yi-Chih Chan, Pei-Chun Li (Taiwan)
P109	A longitudinal research of 10 years of hearing screening in athletes with an intellectual disability Rupal Mehta (Belgium)
P085	The attitude of teachers on referring learning disabilities students to speech therapy Akram Ahmadi, Neda Tahmasebi, Peyman Zamani, Ehsan Naderifar, Ebtesam Hozeyli, Negin Moradi (Iran)

P186	Language development of children with cortical visual impairment and additional disabilities Amal Ezzat (Egypt)
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POSTER TOUR 3 (VOICE)

GUIDE: Mieke Moerman (Belgium)

P082	MaskVOX: A New Device for Voice Therapy and Vocal Training Ilter Denizoglu (Turkey)
P138	The first experience of use of voice analysis in voice laboratory in Kazakhstan Dinara Toguzbayeva (Kazakhstan)
P167	The significance of clinical voice examination to vocal music teaching Liyan Han, Feng Jiang (China)
P170	World Voice Day in Russia Ekaterina Osipenko, Maria Isaeva (Russian Federation)
P073	Voice disorders in children Elena Radtsig, Olga Orlova, Yana Bulynko (Russian Federation)
P130	Additional fibrolaryngoscopic tests: clinical significance Sergey Karpishchenko, Olga Vershchagina (Russian Federation)
P179	Study on the Subjective and Objective Evaluation of the Vocal Tone of Beijing Opera Jiang Yongmei (China)

POSTER TOUR 4 (VOICE)

GUIDE: James Thomas (USA)

P024	Efficacy of video-provided Home Vocal Function Exercises in People with Functional Dysphonia Sarah-Jane Thiemann, Hermann Opitz, Wiebke Scharff Rethfeldt (Germany)
P052	Gender-related distribution of benign vocal fold lesions: A 13-years single institution review Elke Brunner, Markus Gugatschka (Austria)
P070	VHI scores and acoustic features in street vendors as occupational voice users Thair Odeh, Yasser Natour, Wissam Darawshe, Juhayna Taha, Majd Waari, Sara Bashiti (Jordan)
P071	Coping strategies in Persian speaking patients with voice disorders: a new instrument Maryam Faham, Akram Ahmadi, Shamim Hosseinifar (Iran)
P205	A Comparative Study of the pVHI-TR and the TR-CVHI-10 Among Children with Vocal Nodules Arzu Tüzün, Elçin Tadihan Özkan, Ali Çağlı (Turkey)
P176	Differences in vocal tract dimensions between female classical singing, kulning and edge Tero Ikävalko, Anita McAllister, Robert Eklund, Eveliina Lammontausta, Mari Leppävuori, Anne-Maria Laukkanen (Finland and Sweden)
P081	DoctorVox Voice Therapy Method Ilter Denizoglu (Turkey)

Friday 15/6/2018

Time	Fennia 1	Fennia 2	Nordia	Baltica
8:30-9:15	KEYNOTE: TREATMENT OF UNILATERAL VOCAL FOLD PARALYSIS			
9:15-9:30	Break and Group Photo of the 29 th UEP Congress			
9:30-10:10	INSTRUCTIONAL COURSE: OFFICE-BASED PHONOSURGERY	ROUNDTABLE: AUDITORY PROCESSING DISORDER – THE DIAGNOSTICS, CO-MORBIDITIES AND EFFECTS OF NOISE ON LANGUAGE DEVELOPMENT	WORKSHOP: PHYSIOLOGY OF REGISTERS AND LARYNGEAL MECHANICS (WITH LIVE DEMONSTRATIONS) (60 min)	RESEARCH FORUM: NEW ASPECTS IN VOICE ASSESSMENT (1)
10:15-11:00	WORKSHOP: LARYNGEAL EMG	KEYNOTE: AN EVIDENCE-BASED APPROACH TO TONGUE-TIE (20 min) 10:35-11:00 INDUSTRY-SPONSORED SESSION, please see page 55	ROUNDTABLE: NON-ORGANIC VOICE DISORDERS: DIAGNOSIS AND TREATMENT (30 min)	RESEARCH FORUM: NEW ASPECTS IN VOICE ASSESSMENT (2)
11:00-11:20	Coffee, Posters and Exhibition. Poster tours 5 and 6			
11:30-12:10	11:30-12:00 INDUSTRY-SPONSORED SESSION, please see page 55	ROUNDTABLE: PROBLEMS IN LANGUAGE DEVELOPMENT – DOES THE ICD-11 GIVE US NEW ASPECTS?	RESEARCH FORUM ON SWALLOWING, WHAT IS NEW? (55 min)	RESEARCH FORUM: MISCELLANEOUS
12:15-13:00	12:00-13:00 ROUNDTABLE: PROFESSIONAL SINGING – NEW PHYSIOLOGICAL INSIGHTS	ROUNDTABLE: OPTICAL AND ACOUSTICAL DIAGNOSTICS OF VOICE DISORDERS	12:30-13:00 WORKSHOP: USING PEER-MEDIATED STRATEGIES TO ENHANCE COMMUNICATION FOR STUDENTS WITH SEVERE DISABILITIES	ROUNDTABLE: THE HUMAN RECURRENT LARYNGEAL NERVE AND CERVICAL SURGERY. PREVENTION, DIAGNOSIS AND TREATMENT
13:00-14:00	Lunch			
14:00-14:45	KEYNOTE: DYSPHAGIA BY SCREENPLAYS			
14:45-15:00	Break			
15:00-15:40	ROUNDTABLE: UNILATERAL VOCAL FOLD PARALYSIS: EXPERIENCE ON AUGMENTATION	ROUNDTABLE: SWALLOWING AND HEAD AND NECK CANCER	ROUNDTABLE: DEVELOPMENTAL DISABILITIES: PERSPECTIVES AND CONSIDERATIONS	RESEARCH FORUM: ASSESSMENT AND TREATMENT EFFICACY IN COMMUNICATION DISORDERS
15:45-16:30	ROUNDTABLE: EXPERIENCE OF THYROID PLASTY IN TREATING GLOTTAL GAPS	WORKSHOP: TUBES IN VOICE THERAPY? – WHAT – WHY – HOW? HANDS-ON WORKSHOP WITH DISCUSSION		RESEARCH FORUM: ACOUSTICS AND ASSESSMENT OF VOICE AND SPEECH
16:30-17:00	Coffee, Posters and Exhibition			
17:00-18:00	ROUNDTABLE: THE FUTURE OF MANAGEMENT OF VOICE DISORDERS	ROUNDTABLE: CONTROVERSY: HOARSENESS AND REFLUX – IS THERE ANY SCIENTIFIC RELATIONSHIP?	ROUNDTABLE: IAPA SESSION: BRAIN DISEASES AND HEARING IMPAIRMENT (IAPA)	RESEARCH FORUM: MOTOR SPEECH DISORDERS, WHAT IS NEW?
18:00-18:45	GENERAL ASSEMBLY OF EUROPEAN ACADEMY OF PHONIASTRICS			
19:30-23:30	Gala dinner in Nobility House			

VOICE

SPEECH AND
LANGUAGE

SWALLOWING

AUDIOLOGY

Friday 15/6/2018

INVITED KEYNOTE SPEAKERS

HALL: FENNIA 2

TIME ABSTRACT HALL
REFERENCE FENNIA 2

8:30-9:15 **S222** **TREATMENT OF UNILATERAL VOCAL FOLD PARALYSIS, HEIKKI RIIKANEN (FINLAND)**
Chair: Ahmed Geneid (Finland)

9:15-9:30 **Break and Group Photo of the 29th UEP Congress**

14:00-14:45 **DYSPHAGIA BY SCREENPLAYS, GAUTHIER DESUTER (BELGIUM)**
Chair: Pia Järvenpää (Finland)

14:45-15:00 **Break**

EAP GENERAL ASSEMBLY AND SOCIAL PROGRAM

TIME HALL
FENNIA 1

18:00-18:45 **General assembly of The European Academy of Phoniatics**

19:30-23:30 **Gala dinner in Nobility House**

FENNIA 1

TIME ABSTRACT HALL
REFERENCE FENNIA 1

9:30-10:10 **S133** **INSTRUCTIONAL COURSE: OFFICE-BASED PHONOSURGERY**
Speaker: Markus Hess (Germany)

10:15-11:00 **S038** **WORKSHOP: LARYNGEAL EMG**
Moderator: Berit Schneider-Stickler (Austria)

Speakers:
Matthias Leonhard (Austria)
Claus Pototschnig (Austria)
Berit Schneider-Stickler (Austria)

11:00-11:30 **Coffee, Posters and Exhibition**
Poster tours 5 and 6 from 11:00-11:20

11:30-12:00 **INDUSTRY SPONSORED SESSION**, please see page 55

12:00-13:00 **S047** **ROUNDTABLE: PROFESSIONAL SINGING - NEW PHYSIOLOGICAL INSIGHTS**
Moderator: Dirk Murbe (Germany)

Speakers:
Dirk Murbe (Germany)
Lisa Popeil (USA)
Franco Fussi (Italy)

13:00-14:00 **Lunch**

15:00-15:40 **S187** **ROUNDTABLE: UNILATERAL VOCAL FOLD PARALYSIS: EXPERIENCE ON AUGMENTATION**
Moderator: Rami Taulu (Finland)

Speakers:
Michael Benninger (USA)
Markus Hess (Germany)
Petri Reijonen (Finland)

15:45-16:30 **S209** **ROUNDTABLE: EXPERIENCE OF THYROPLASTY IN TREATING GLOTTAL GAPS**
Moderator: Miia Ruuskanen (Finland)

Speakers:
Michael Benninger (USA)
Gauthier Desuter (Belgium)
Hans Mahieu (Netherlands)

16:30-17:00 **Coffee, Posters and Exhibition**

17:00-18:00 **S115** **ROUNDTABLE: THE FUTURE OF MANAGEMENT OF VOICE DISORDERS**
Moderator: Taru Ilmarinen (Finland)

Speakers:
Markus Gugatschka (Austria)
Antoine Giovanni (France)
Jean-Paul Marie (France)
Tadeus Nawka (Germany)

FENNIA 2

TIME	ABSTRACT REFERENCE	HALL FENNIA 2
9:30-10:10	S154	ROUNDTABLE: AUDITORY PROCESSING DISORDER – THE DIAGNOSTICS, CO-MORBIDITIES AND EFFECTS OF NOISE ON LANGUAGE DEVELOPMENT Moderator: Leena Ervast (Finland) Speakers: Bozena Woznica (Poland) Donna Geffner (USA) Elina Niemitalo-Haapola (Finland)
10:15-10:35	S128	KEYNOTE: AN EVIDENCE-BASED APPROACH TO TONGUE-TIE Moderator: Anu Jyrkkä (Finland) Speaker: Tuomas Klockars (Finland), (20 min)
10:35-11:00	INDUSTRY SPONSORED SESSION , please see page 55	
11:00-11:30	Coffee, Posters and Exhibition Poster tours 5 and 6 from 11:00-11:20	
11:30-12:10	S129	ROUNDTABLE: PROBLEMS IN LANGUAGE DEVELOPMENT – DOES THE ICD-11 GIVE US NEW ASPECTS? Moderator: Mari Qvarnström (Finland) Speakers: Elina Mainela-Arnold (Finland) Katrín Neumann (Germany) Marja Asikainen (Finland)
12:15-13:00	S196	ROUNDTABLE: OPTICAL AND ACOUSTICAL DIAGNOSTICS OF VOICE DISORDERS Moderator: Felix De Jong (Netherlands and Belgium) Speakers: Felix De Jong (Netherlands and Belgium) Secundino Fernández (Spain) James Thomas (USA)
13:00-14:00	Lunch	
15:00-15:40	S190	ROUNDTABLE: SWALLOWING AND HEAD AND NECK CANCER Moderator: Mari Markkanen-Leppänen (Finland) Speakers: Mari Markkanen-Leppänen (Finland) Gauthier Desuter (Belgium) Virginie Woisard (France)
15:45-16:30	S203	WORKSHOP: TUBES IN VOICE THERAPY? – WHAT – WHY – HOW? HANDS-ON WORKSHOP WITH DISCUSSION Moderator: Anne-Maria Laukkanen (Finland) Speakers: Anne-Maria Laukkanen (Finland) Ilter Denizoglu (Turkey) Greta Wistbacka (Finland)

16:30-17:00

Coffee, Posters and Exhibition17:00-18:00 **S177****ROUNDTABLE: CONTROVERSY: HOARSENESS AND REFLUX - IS THERE ANY SCIENTIFIC RELATIONSHIP?**

Moderator: James Thomas (USA)

Speakers:

James Thomas (USA)

Markus Hess (Germany)

Yakubu Karagama (UK)

Gauthier Desuter (Belgium)

NORDIA

TIME	ABSTRACT REFERENCE	HALL NORDIA
9:30-10:30	S046	WORKSHOP: PHYSIOLOGY OF REGISTERS AND LARYNGEAL MECHANICS (WITH LIVE DEMONSTRATIONS) Moderator: Franco Fussi (Italy) Speakers: Franco Fussi (Italy) Eleonora Bruni (Italy) Erika Biavati (Italy) Alberto Quarello (Italy) (60 min)
10:30-11:00	S218	ROUNDTABLE: NON-ORGANIC VOICE DISORDERS: DIAGNOSIS AND TREATMENT Moderator: Hanna Freiberg (Finland) Speakers: Reinaldo Yazaki (Brazil) Yakubu Karagama (UK) (30 min)
11:00-11:30	Coffee, Posters and Exhibition Poster tours 5 and 6 from 11:00-11:20	
11:30-12:25	RESEARCH FORUM ON SWALLOWING, WHAT IS NEW? Chair: Patrick Zorowka (Austria) Moderator: Irena Hocevar Boltezar (Slovenia)	
11:30-11:40	R107	Eating disorders of early childhood (EDEC): oral motor versus sensory aversions. Samia Bassiouny (Egypt)
11:40-11:55	R126	Keynote speaker The causes for dysphagia in infants and toddlers Irena Hocevar Boltezar (Slovenia)
11:55-12:10	R160	Keynote speaker Impact of a customizable and flexible transportable seated positioning device on swallowing disorders (DATP-DEG) Virginie Woizard , Mireille Costes (France)
12:10-12:20	R171	Study on the physiological difference between standing and sitting positions in the Duration for Normal Swallowing Ahlam El-adawy , Eman Ahmed, Ahmed Emam, Rasha Hashem (Egypt)
12:20-12:25	Discussion	
12:30-13:00	S026	USING PEER-MEDIATED STRATEGIES TO ENHANCE COMMUNICATION FOR STUDENTS WITH SEVERE DISABILITIES Moderator: Lou-Ann Land (USA) Speakers: Lou-Ann Land (USA) Judith Page (USA)
13:00-14:00	Lunch	

15:00-16:30	S005	ROUNDTABLE: DEVELOPMENTAL DISABILITIES: PERSPECTIVES AND CONSIDERATIONS Moderator: Wael Al-Dakrouy (Saudi Arabia, UK) Speakers: Wael Al-Dakrouy (Saudi Arabia, UK) Silvia Martinez (USA) Martine Elie (USA) Samirah Al-Ghamdi (Saudi Arabia)
16:30-17:00	Coffee, Posters and Exhibition	
17:00-18:00	S207	ROUNDTABLE: IAPA SESSION: BRAIN DISEASES AND HEARING IMPAIRMENT (IAPA) Moderator: Jose Juan Barajas De Prat (Spain) Speakers: Jose Juan Barajas De Prat (Spain) Doris-Eva Bamio (UK) Jakub Drsata (Czech Republic)

BALTICA

TIME	ABSTRACT REFERENCE	HALL BALTICA
9:30-10:10		RESEARCH FORUM: NEW ASPECTS IN VOICE ASSESSMENT (1) Chair: Virgilijus Ulozas (Lithuania) Moderator: Meike Brockmann-Bauser (Switzerland)
9:30-9:40	R011	Carcinologic Handicap Index: disability self-assessment questionnaire for head and neck cancer patients Mathieu Balaguer-Navarro , Josiane Percodani, Virginie Woisard (France)
9:40-9:50	R088	Dysphonia Severity Index and Acoustic Voice Quality Index measures differentiating normal/dysphonic voices Virgilijus Ulozas , Ben Barsties v. Latoszek, Nora Ulozaite-Staniene, Tadas Petrauskas, Youri Maryn (Lithuania and Belgium)
9:50-10:00	R114	The current situation and future of Vocal Arts Medicine in China Liyan Han (China)
10:00-10:10	R159	Validation and Reliability of the Turkish version of singing voice handicap index short form (SVHI-10) Fatma Esen Aydinli , Sevtap Akbulut, Esra Özcebe, Oğuz Kuşçu, Taner Yılmaz, Clark Rosen, Jackie Gardtner-Schmidt (Turkey and USA)
10:15-11:00		RESEARCH FORUM: NEW ASPECTS IN VOICE ASSESSMENT (2) Chair: Sevtap Akbulut (Turkey) Moderator: Safinaz Azab (Saudi Arabia and Egypt)
10:15-10:25	R019	Voice of teachers Viktoria Shilenkova , Varvara Pevtsova (Russia)
10:25-10:35	R173	Effect of voice therapy with phonemicsurgery on voice outcomes for vocal fold polyps Gokhan Toptaş, Kemal Keseroglu, Emel Cadalli Tatar , Mustafa Şahin, Elife Barmak, Sevilay Karahan, Mehmet Hakan Korkmaz (Turkey)
10:35-10:45	R137	Reliability and Clinical Validity of the Turkish Reflux Symptom Index Sevtap Akbulut , Fatma Esen Aydinli, Oğuz Kuşçu, Esra Özcebe, Taner Yılmaz, Clark Rosen, Jackie Gardtner-Schmidt (Turkey and USA)
10:45-10:55	R055	Can Cochlear Implantation Improve Voice Quality In Arabic Speaking Children? Safinaz Azab , Rabee El Sabeela (Saudi Arabia)
10:55-11:00		Discussion
11:00-11:30		Coffee, Posters and Exhibition Poster tours 5 and 6 from 11:00-11:20
11:30-12:15		RESEARCH FORUM: MISCELLANEOUS Chair: Ekaterina Osipenko (Russia) Moderator: Dirk Deuster (Germany)
11:30-11:45	R142	Keynote speaker Psychological stress and strain at work among phoniatricians Dirk Deuster , Antoinette am Zehnhoff-Dinnesen, Peter Matulat (Germany)
11:45-11:55	R050	Vocal mucosal oedema in children Inna Vorobeve , Victoria Shilenkova, Andrey Zinkin (Russia)

11:55-12:05	R169	Comprehensive treatment of vocal fold nodules in children Maria Isaeva , Ekaterina Osipenko (Russia)
12:05-12:15	R063	Long-term follow-ups of Persian ADSD Patients - Studying QOL and Voice changes Maryam Faham , Farhad Torabinezhad, Payman Dabirmoghaddam, Jamileh Abolghasemi (Iran)
12:15-13:00	S010	ROUNDTABLE: THE HUMAN RECURRENT LARYNGEAL NERVE AND CERVICAL SURGERY. PREVENTION, DIAGNOSIS AND TREATMENT Moderator: Robert Kesmarszky (Hungary) Speakers: Robert Kesmarszky (Hungary) Bertrand Joly (France) Ekaterina Osipenko (Russia)
13:00-14:00		Lunch
15:00-15:40		RESEARCH FORUM: ASSESSMENT AND TREATMENT EFFICACY IN COMMUNICATION DISORDERS Chair: Sanna Häkli (Finland) Moderator: Sabrina Regele (Germany)
15:00-15:10	R068	Reliability and validity of the new instrument for assessment of speech sound production in Persian speaking children Akram Ahmadi , Maryam Faham , Reyhane Mohammadi, Mohammad Kamali, Abbas Ebadi, Talieh Zarifian, Mehdi Dastjerdi Kazemi (Iran)
15:10-15:20	R021	Development, standardization, and application of Luttas computer based Arabic Language Skills Test Safinaz Azab , Khalid El Nagar, Mahmoud Othman (Egypt)
15:20-15:30	R140	Intrafamilial phenotypic variability of Specific Language Impairment Sabrina Regele , Lisa Bartha-Doering, Antoinette am Zehnhoff-Dinnesen (Germany and Austria)
15:30-15:40	R122	Cases study (3 cases) in the Autistic Spectrum and the possibility of a syndrome's existence Evangelos Bochatziar (Greece)
15:45-16:30		RESEARCH FORUM: ACOUSTICS AND ASSESSMENT OF VOICE AND SPEECH Chair: Bożena Woźnica (Poland) Moderator: Christopher Watts (USA)
15:45-15:55	R089	Spectral acoustic measures improve with increasing vocal intensity Meike Brockmann-Bauser , Jarrad H. Van Stan, Jörg E. Bohlender, Daryush D. Mehta (Switzerland and USA)
15:55-16:05	R204	Smoothed Cepstral Peak Prominence (CPPS), Voice Activity and Participation Profile (VAPP) and Vocal Health Caitriona Munier , Meike Brockmann Bauser, Irma Ilomäki, Elina Kankare, Anne-Maria Laukkanen, Ahmed Geneid (Finland and Switzerland)
16:05-16:15	R045	Acoustic characterization of speech intonation in Parkinson's disease. Christopher Watts (USA)

16:15-16:25	R054	Objective assessment of dysphonia in girls suffered from anorexia nervosa. Barbara Maciejewska , Aleksandra Rajewska-Rager, Zofia Maciejewska-Szaniec, Bogna Małaczyńska, Michał Michalak, Piotr Świdziński, Bożena Woźnica (Poland)
16:25-16:30		Discussion
16:30-17:00	Coffee, Posters and Exhibition	
17:00-18:00	RESEARCH FORUM: MOTOR SPEECH DISORDERS, WHAT IS NEW? Chair: Terhi Ansamaa (Finland) Moderator: Pedro Gómez Vilda (Spain)	
17:00-17:10	R030	SPI in assessment of stuttering severity and chronicity among Arabic speaking children Reham Ahmed (Egypt)
17:10-17:20	R103	Oral placement therapy: The importance of the jaw function in feeding and speech Rehab Zaytoun (Egypt)
17:20-17:30	R031	Jaw-tongue neuromechanical modelling from sEMG activity for dysarthric speech evaluation Andrés Gómez-Rodellar , Agustín Álvarez-Marquina, Pedro Gómez-Vilda (Spain)
17:30-17:40	R032	Estimating neuromotor degeneration from voice and speech correlates Pedro Gómez Vilda , Jiri Mekyska, Andrés Gómez-Rodellar, Daniel Palacios-Alonso (Spain and Czech Republic)
17:40-17:50	R193	Speech in adults treated for unilateral cleft lip palate Staffan Morén , Per-Åke Lindestad, Lilian Stålhammar, Mats Holmström, Maria Mani (Sweden)
17:50-18:00		Discussion

POSTER TOUR 5 (SPEECH AND LANGUAGE)**GUIDE: Wiebke Scharff-Rethfeldt** (Germany)

REF	TITLE
P172	Speech therapy in comprehensive rehabilitation and resocialization of patients with head and neck tumors Madrudin Magomed-Eminov, Olga Orlova, Dmitriy Reshetov, Daria Uklonskaya, Olga Sokolova, Yulia Pokrovskaya, Victoria Agaeva, Yulia Khoroshkova, Anastasia Guretc (Russian Federation)
P095	Non-Verbal Communication in Speech-Impaired Persons: Two Case Studies Seamus Hallahan, Barbara Hallahan (Ireland)
P210	Methodological decisions in consistent selectivity in data collection about the impact of aphasia rehabilitation Tarja Kukkonen (Finland)
P036	Acoustic measurement of prosody in normal and dysarthric Egyptian adults Engy Elhakeem, Yehia Aboras, Manal Elbanna (Egypt)
P162	Dual Coding Theory: The imagery-language connection Rehab Zaytoun (Egypt)

POSTER TOUR 6 (SPEECH AND LANGUAGE AND VOICE)**GUIDE: Tamer Abou El Saad** (Egypt)

REF	TITLE
P098	Corpus of the oral language of Mandarin-speaking typically developing and language-delayed children Shang-Yu Wu, Re-Jane Huang, I-Fang Tsai (Taiwan)
P104	Apraxia of Speech in adolescents and adults with Down syndrome Sandra Cristina Fonseca Pires, Carolina Fonseca de Freitas (Brazil)
P105	Assessment of Fluency in Down syndrome adolescents and adults Sandra Cristina Fonseca Pires, Flavia Perez de Freitas (Brazil)
P217	A Multi Therapeutic Methodologies to Improve Specific Language Deficit in ADD Children Tahany Ahmad, Enas Salem (Egypt)
P216	Congenitally Missing Teeth (Hypodontia) In Children with Can Cause Severe Speech Production-A Case Study Tahany Ahmad, Enas Salem (Egypt)
P064	Fibrous mass of the vocal folds: clinical characteristics, treatment and voice results. Beata Miaśkiewicz, Elżbieta Gos, Agata Szkiełkowska (Poland)
P065	Acoustic characteristics of voice in patients treated for sulcus vocalis Beata Miaśkiewicz, Agata Szkiełkowska, Elżbieta Gos, Aleksandra Panasiewicz (Poland)

Saturday 16/6/2018

Time	Fennia 1	Fennia 2	Nordia	Baltica
8:30-9:15	KEYNOTE: UNDERSTANDING AUDITORY PROCESSING DISORDER: MULTIDISCIPLINARY COLLABORATION FOR ASSESSMENT AND MANAGEMENT			
9:15-9:30	Break			
9:30-10:15	INSTRUCTIONAL COURSE: PHOTOANGIOLYTIC LASERS	ROUNDTABLE: LATE TALKERS: BACKGROUND FACTORS AND THE PREDICTIVE VALUE OF LATE LANGUAGE EMERGENCE	ROUNDTABLE: VOICE AND SPEECH PERCEPTION: HUMAN VS. AUTOMATIC	UEP 2020 SESSION: CASE DISCUSSIONS IN PHONiatrics & LARYNGOLOGY
10:15-11:00	UEP VOICE COMMITTEE SESSION: "WHERE ARE WE NOW AND WHERE ARE WE GOING?" DIAGNOSTICS AND DEFINITIONS		RESEARCH FORUM: VOCAL FOLD PARALYSIS, WHAT IS NEW?	
11:00-11:30	Coffee, Posters and Exhibition			
11:30-12:15	COMET SESSION: EMERGENCY VOICE MEDICINE AND WHEN TO CANCEL A CONCERT	ROUNDTABLE: LANGUAGE AND SOCIO-EMOTIONAL SKILLS	WORKSHOP: OSTEOPATHIC APPROACH TO EXAMINATION AND TREATMENT OF MUSCLE TENSION DYSPHONIA	INSTRUCTIONAL COURSE: REVISITING SOME BASIC MECHANISMS OF VOCAL FOLD VIBRATION
12:15-13:00	INSTRUCTIONAL COURSE: PERMANENT AUGMENTATION OF VOCAL FOLD PARALYSIS WITH FASCIA		ROUNDTABLE: MANAGEMENT OF THE PROFESSIONAL VOICE BACK STAGE, IN THE OFFICE, AND IN THE OPERATING ROOM	WORKSHOP: TeleFON, AN INTERACTIVE SOFTWARE SERVICE FOR COMMUNICATION AND SWALLOWING THERAPY INSTRUCTIONAL COURSE: FEES SCORING PROTOCOL, THE "WHATS", THE "WHENS" AND THE "WHERE'S"
13:00-14:00	Lunch			
14:00-14:45	KEYNOTE: HOLISTIC VIEW OF AUDITORY SYSTEM: AN ELECTROPHYSIOLOGICAL STUDY			
14:45-15:00	Break			
15:00- 16:30	WORKSHOP: 3-ZONES VOICE MODEL WORKSHOP: LARYNGEAL MECHANISMS IN VARIOUS SINGING STYLES	ROUNDTABLE: UEP HEARING COMMITTEE: CURRENT ISSUES OF PEDIATRIC AUDIOLOGY UEP VOICE COMMITTEE SESSION: "WHERE ARE WE NOW AND WHERE ARE WE GOING?" THERAPY	RESEARCH FORUM: NEUROBIOLOGICAL AND NEUROPSYCHIATRIC LANGUAGE DISORDERS RESEARCH FORUM: SENSORY AND PERCEPTUAL IMPAIRMENTS AND LANGUAGE	WORKSHOP: ULTRASOUND IN PHONiatrics
16:30-17:00	Coffee break			
17:00-18:00	CLOSING CEREMONY			

VOICE

SPEECH AND
LANGUAGE

SWALLOWING

AUDIOLOGY

Saturday 16/6/2018

INVITED KEYNOTE SPEAKERS

HALL: FENNIA 2

TIME ABSTRACT HALL
REFERENCE FENNIA 2

8:30-9:15 **S221** **UNDERSTANDING AUDITORY PROCESSING DISORDER: MULTIDISCIPLINARY COLLABORATION FOR ASSESSMENT AND MANAGEMENT**
DEBORAH SWAIN AND DONNA GEFFNER (USA)
Chair: Katrin Neumann (Germany)

9:15-9:30 **Break**

14:00-14:45 **S220** **HOLISTIC VIEW OF AUDITORY SYSTEM: AN ELECTROPHYSIOLOGICAL STUDY, JOSE BARAJAS (SPAIN)**
Chair: Antoinette am Zehnhoff-Dinnesen (Germany)

14:45-15:00 **Break**

CLOSING CEREMONY

TIME HALL
FENNIA 2

17:00-18:00 **Closing Ceremony of the 29th UEP Congress**

FENNIA 1

TIME ABSTRACT HALL
REFERENCE FENNIA 1

9:30-10:15 **S134** **INSTRUCTIONAL COURSE: PHOTOANGIOLYTIC LASERS**
Markus Hess (Germany)

10:15-11:00 **S118** **UEP VOICE COMMITTEE SESSION: "WHERE ARE WE NOW AND WHERE ARE WE GOING?" DIAGNOSTICS AND DEFINITIONS**
Moderator: John Rubin (UK),
Mieke Moerman (Belgium)

Speakers:
John Rubin (UK)
Mieke Moerman (Belgium)
Ekaterina Osipenko (Russia)
Tamas Hacki (Hungary)
Bozena Woznica (Poland)

11:00-11:30 **Coffee, Posters and Exhibition**

11:30-12:15 **S195** **COMET SESSION: EMERGENCY VOICE MEDICINE AND WHEN TO CANCEL A CONCERT**
Moderator: Josef Schlörmicher-Thier (Austria)

Speakers:
Josef Schlörmicher-Thier (Austria)
Markus Hess (Germany)
Louisa Traser (Switzerland)

12:15-13:00 **S053** **INSTRUCTIONAL COURSE: PERMANENT AUGMENTATION OF VOCAL FOLD PARALYSIS WITH FASCIA**
Heikki Rihkanen (Finland)

13:00-14:00 **Lunch**

15:00-15:45 **S028** **WORKSHOP: 3-ZONES VOICE MODEL**
Michel de Kort (Netherlands)
Felix de Jong (Netherlands, Belgium)

15:45-16:30 **S033** **WORKSHOP: LARYNGEAL MECHANISMS IN VARIOUS SINGING STYLES**
Lisa Popeil (USA)

16:30-17:00 **Coffee break**

17:00-18:00 **Closing ceremony**

FENNIA 2

TIME	ABSTRACT REFERENCE	HALL FENNIA 2
9:30-11:00	S017	ROUNDTABLE: LATE TALKERS: BACKGROUND FACTORS AND THE PREDICTIVE VALUE OF LATE LANGUAGE EMERGENCE Moderator: Suvi Stolt (Finland) Speakers: Suvi Stolt (Finland) Leila Paavola-Ruotsalainen (Finland) Sira Määttä (Finland) Suvi Vehkavuori (Finland)
11:00-11:30		Coffee, Posters and Exhibition
11:30-13:00	S084	ROUNDTABLE: LANGUAGE AND SOCIO-EMOTIONAL SKILLS Moderator: Kerttu Huttunen (Finland) Speakers: Marja-Leena Laakso (Finland) Nina Sajaniemi (Finland) Joanna Kosonen (Finland) Soile Loukusa (Finland)
13:00-14:00		Lunch
15:00- 15:45	S100	ROUNDTABLE: UEP HEARING COMMITTEE: CURRENT ISSUES OF PEDIATRIC AUDIOLOGY Moderator: Katrin Neumann (Germany) Speakers: Katrin Neumann (Germany) Monika Tigges (Germany) Peter Kummer (Germany) Jakub Dršata (Czech Republic)
15:45-16:30	S117	UEP VOICE COMMITTEE SESSION: "WHERE ARE WE NOW AND WHERE ARE WE GOING?" THERAPY Moderator: Mieke Moerman (Belgium), John Rubin (UK) Speakers: Mieke Moerman (Belgium) John Rubin (UK) Josef Schlörmicher-Thier (Austria) İlter Denizoglu (Turkey)
16:30-17:00		Coffee break
17:00-18:00		Closing ceremony

NORDIA

TIME	ABSTRACT REFERENCE	HALL NORDIA
9:30-10:15	S158	ROUNDTABLE: VOICE AND SPEECH PERCEPTION: HUMAN VS. AUTOMATIC Moderator: Virginie Woisard (France) Speakers: Virginie Woisard (France) Jérôme Farinas (France) Alain Ghio (France) Jean Schoentgen (Belgium)
10:15-11:00		RESEARCH FORUM: VOCAL FOLD PARALYSIS, WHAT IS NEW? Chair: Jean-Paul Marie (France) Moderator: Jörg E. Bohlender (Switzerland)
10:15-10:25	R135	Combined medialization thyroplasty and reinnervation in unilateral vocal fold paralysis: our experience Ahmed Ibrahim Nasr , Andreas Mueller (Germany)
10:25-10:40	R189	Keynote speaker Vocal Assessment in unilateral vocal cord paralysis: a qualitative systemic review. Lise Crevier-Buchman , Zainab Bakhsh (France)
10:40-10:50	R215	Selective laryngeal reinnervation for bilateral recurrent laryngeal nerve injuries Zheng Hongliang (China)
10:50-11:00	R044	Botulinum Toxin injection in Bilateral Vocal Fold Immobility Reham Abdelwakil Ibrahim Mohamed (Egypt)
11:00-11:30		Coffee, Posters and Exhibition
11:30-12:15	S198	WORKSHOP: OSTEOPATHIC APPROACH TO EXAMINATION AND TREATMENT OF MUSCLE TENSION DYSPHONIA Jacob Lieberman (UK) Markus Hess (Germany)
12:15-13:00	S214	ROUNDTABLE: MANAGEMENT OF THE PROFESSIONAL VOICE BACK STAGE, IN THE OFFICE, AND IN THE OPERATING ROOM Moderator: Reinaldo Yazaki (Brazil) Speakers: Tadeus Nawka (Germany) Reinaldo Yazaki (Brazil) Matthias Weikert (Austria)
13:00-14:00		Lunch
15:00- 15:45		RESEARCH FORUM: NEUROBIOLOGICAL AND NEUROPSYCHIATRIC LANGUAGE DISORDERS Chair: Silvia Martinez (USA) Moderator: Anneli Yliherva (Finland)
15:00-15:10	R006	Language Disorders in children with ADHD Wael Al-Dakroury (Egypt and UK)

15:10-15:20	R168	Autism in Finland – families' and professionals' experiences on identification and diagnostic work Anneli Yliherva , L. Rantala, I. Moilanen, H. Ebeling, M. Gissler, T. Parviainen, P. Tani, A. Bejarano-Martín, R. Canal-Bedia (Finland and Spain)
15:20-15:30	R146	Fetal growth restriction is associated with poor communication skills at early school-age Lea Partanen , Noora Korkalainen, Kaarin Mäkilä, Päivi Olsén, Anneli Yliherva (Finland)
15:30-15:40		Discussion
15:45-16:30		RESEARCH FORUM: SENSORY AND PERCEPTUAL IMPAIRMENTS AND LANGUAGE Chair: Rana Alkhamra (Jordan) Moderator: Sari Levänen (Finland)
15:45-15:55	R025	Touch It! Tactile symbols for students with developmental disabilities and visual impairments Laura Stone, Gerald Abner, Judith Page , Lou-Ann Land, Jane Kleinert, Jacqui Kearns (USA)
15:55-16:05	R152	Auditory and visual speech-perception deficits in language-impaired children Sari Levänen , Kaisa Tiippana, Erkki Vilkinen (Finland)
16:05-16:15	R136	Exploring family early interactive literacy practices Rana Alkhamra , Hana Mahmoud, Jehad Al-Araifi (Jordan)
16:15-16:25	R020	Linguo-studio as a form of teaching children-bilinguals and their parents Olga Tverskaya (Russia)
16:25-16:30		Discussion
16:30-17:00		Coffee break
17:00-18:00		Closing ceremony

BALTICA

TIME	ABSTRACT REFERENCE	HALL BALTICA
9:30-11:00	S156	UEP 2020 SESSION: CASE DISCUSSIONS IN PHONiatrics & LARYNGOLOGY Moderator: Haldun Oguz (Turkey) Speakers: Sevtap Akbulut (Turkey) Hakan Birkent (Turkey) Ilter Denizoglu (Turkey) Emel Cadalli Tatar (Turkey) Kursat Yelken (Turkey)
11:00-11:30		Coffee, Posters and Exhibition
11:30-12:00	S145	INSTRUCTIONAL COURSE: REVISITING SOME BASIC MECHANISMS OF VOCAL FOLD VIBRATION Philippe DeJonckere (Belgium)
12:00-12:30	S102	TeleFON, AN INTERACTIVE SOFTWARE SERVICE FOR COMMUNICATION AND SWALLOWING THERAPY Mieke Moerman and Mathias Colpaert (Belgium)
12:30-13:00	S164	INSTRUCTIONAL COURSE: FEES SCORING PROTOCOL, THE "WHATS", THE "WHENS" AND THE "WHERE'S" Mariam Shadi (Egypt)
13:00-14:00		Lunch
15:00- 16:30	S007	WORKSHOP: ULTRASOUND IN PHONiatrics Wolfgang Angerstein (Germany)
16:30-17:00		Coffee break
17:00-18:00		Closing ceremony

Guidelines for speakers

GUIDELINES FOR ORAL PRESENTATIONS

All presentation must be in English language.

Please meet the chairperson of your session before the start of the session to introduce yourself and ensure that the chairperson knows how to pronounce your name in the right way.

HOW TO PUT YOUR PRESENTATION ON:

Speaker's ready rooms are so last season. We all make changes to our presentations to the last moment and we understand this. You just put your presentation on a USB memory stick and be ready in the hall of the session during the preceding coffee break, lunch or other break. In the hall of your session our staff will assist you in transferring it to the laptop.

SPEAKERS LOUNGE: ROOM 3

There you can spend time working on your presentation, making changes, etc. The room is available during all congress hours.

POWER POINT PRESENTATIONS:

Kindly use Microsoft PowerPoint 2010 or a newer version. Make sure your presentation is saved in the extend of PPTX or PPT. Make sure your whole presentation works as standalone presentation when saved on USB memory stick. This can be easily done before coming to the congress by checking that it works on other laptops or computers than your own.

MAC USERS

We love you but please make sure your presentation saved on a USB works also on PC.

Prezi USERS

Saving your presentation by downloading it is highly recommended. Wi-Fi is available, but we cannot guarantee its speed!

BACKUP USB

In addition to the USB with your presentation please take another USB as a backup with another copy of your presentation. USBs are vulnerable to be broken or corrupted and a backup copy is always good.

TIME OF ORAL PRESENTATION

10 minutes including one minute for questions unless otherwise stated in the program. Some sessions include time allocated for discussion at the end of the session.

STANDARD EQUIPMENT OF EACH HALL

- Projector and screen
- Laptop
- Sound system and laser pointer

GUIDELINES OF POSTER PRESENTATIONS

• Posters will be on display from Thursday till Saturday. You should hang up your poster on Thursday 14.6.2018 morning, by 08:30 at the latest. To hang up your poster, use the pins that are available at the Congress venue. Please use poster material that is light enough and can be fastened with pins.

• Poster tours are arranged in the program. Presenting author of the poster is expected to be available during the tour and to be prepared for questions.

• Presenters are responsible for dismantling their posters at the end of the last session on Saturday 16.6.2018 afternoon, and by 18:00 at the latest. The Congress organizers will dispose all posters that are not removed by the scheduled poster dismantling time.

• Posters should be displayed in portrait, not landscape. It is the presenter's responsibility to prepare a completely correct poster material ready for presentation, within the maximum frame of a poster board: width 95 cm, height 160 cm. Kindly prepare the content of your poster so that it is readable from a 1.5 meter distance. The content should be in English. Make sure you use the same title that you have used in your abstract.

WHY POSTER TOURS?

THE POSTER TOUR IS MEANT FOR:

- Giving attention to the posters and not to leave them behind. This is done by having a known expert working as the "guide" of the tour.
- The presenting author should be available during the poster tour that includes her/his poster for any questions.
- Assess the posters using certain criteria of content and outfit to select the recipient of the Vilkmans Best Poster Award.
- Kindly notice that the tour time is short (20 minutes for all posters in each tour) as the tours are just meant to allow a quick look and ask possible questions.



Social program and ceremonies

WEDNESDAY 13.6.

OPENING CEREMONY

Place: Helsinki University Great Hall, Aleksanterinkatu 5, Helsinki.

Time: 17:00-18:30

Hosts: Annika Laaksonen and Maaria Ansaranta

Chorus phoniatrix, Juha Vintturi, conductor

Welcome address by President of UEP, Antoinette am Zehnhoff-Dinessen

Duo Katrin Neumann, violoncello and Dirk Deuster, piano

Welcome address by President of the Association of Finnish Phoniatrixians, Mari Qvarnström

Duo Hurme; Hanna Rajakangas ja Petra Poutanen, folk singers

Welcome address by President of the 29th Congress Ahmed Geneid and unveiling of the relief dedicated to Prof. Erkki Vilkmán

Mari Markkanen-Leppänen, mezzo-soprano, Tuuli Takkala, piano



GET TOGETHER

Time: 19:00-20:30

Place: Helsinki City Hall, Pohjoisesplanadi 11-13, Helsinki

Price: Free of charge. You will be welcomed by Alina & Ilkka playing Baroque inspired folk music from Finland. Alina Järvelä (fiddle), Ilkka Heinonen (violone).

THURSDAY 14.6.

Option 1:

EVENING CONCERT ON AN ISLAND: 'MUSIC FOR A WHILE', LONNA ISLAND, HELSINKI

Including the concert, waffle and cava, and waterbus transportation (10 min).

Price 60 euros.

Gathering at 18:45. **Be on time, the waterbus will not wait, and it is a long distance to swim!** Gathering in JT-line pier on the Market square. See the map.

Returning to the same place at 21:45.

Please, make sure to take warm enough clothes with you. The weather by the sea during the transportation may be cold and windy.

The Concert includes: Lute songs and ensemble music from the Baroque era and beyond.

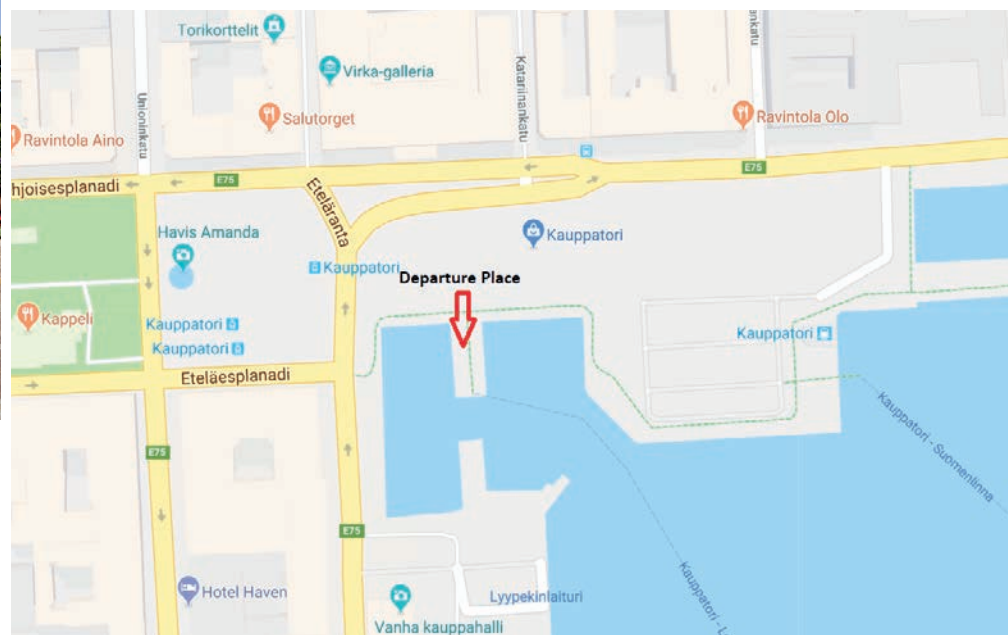
Meri Metsomäki, soprano

Milla Mäkinen, soprano

David Hackston, countertenor

Kaisa-Maija Uljas, theorbo and lute

We welcome to our evening program four up-and-coming musicians from the Baroque-opera collective Orpheus' Muses. The concert presents some of the most famous arias and duets from the 17th century with which to while away a summer's evening, and explores the possibilities that living composers can bring to period instruments.



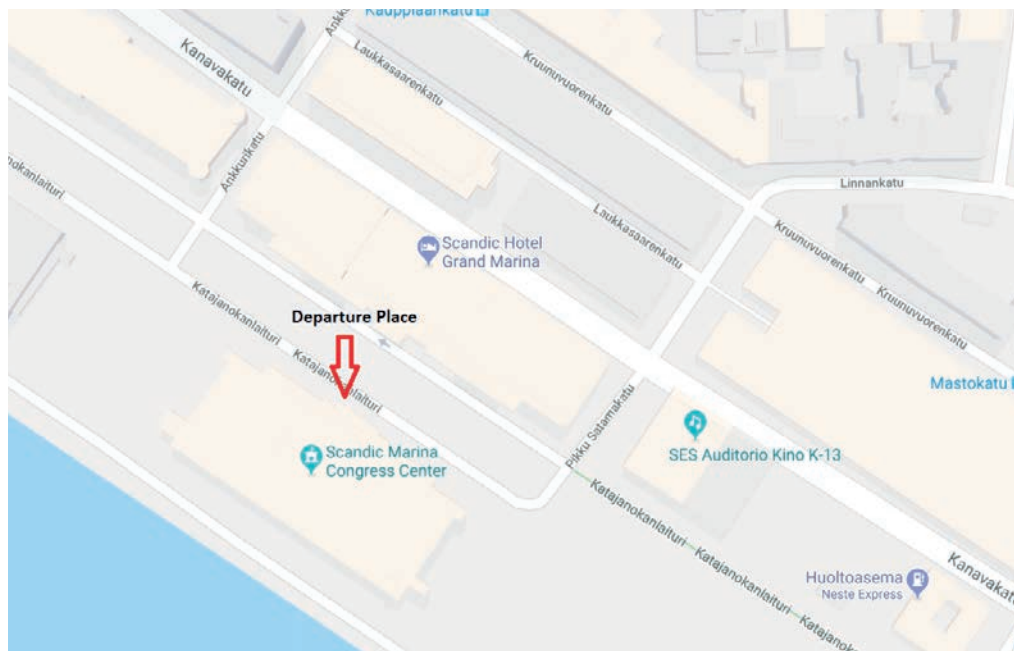
THURSDAY 14.6.

Option 2: SIGHTSEEING BUS TOUR IN HELSINKI

Time: 19:00-20:00.

Departure from front of Marina Congress Center. See the map.

Price: 10 euros



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FRIDAY 15.6.

GALA DINNER

A dinner in the Finnish House of Nobility (Ritarihuone).

Time: 19:30-23:30

Place: Ritarikatu 1, 00170 Helsinki. No transfer is arranged.

Price: 100 euros, requires registration. Limited number of tickets is available from registration desk.

Dress code: Semi-formal but you won't be turned back if dressed otherwise!

In the town plan of the early 19th century a place had been reserved for a palace of the nobility. Many plans of various styles were presented. The neo-gothic plan drawn by the architect G. T. Chiewitz won the competition and the palace was completed in 1862, in time to house all four estates during the Diet of 1863. The inside decoration of the palace is largely contemporary with the palace itself.



SATURDAY 16.6.

CLOSING CEREMONY

Time: 17:00-18:00

Place: Marina Congress Center, Fennia 2.

Kalevala interactive folk song with kantele

Congress wrap up

Announcement of UEP Congresses 2020 and 2022, Turkey and Czech Republic

UEP Awards

Thanks and good-bye

UEP Art Gallery

On the occasion of 29th UEP Congress, an art gallery will take place during the congress. The gallery will include the installation "Vocological studies" by Voice researcher Jaana Tyrmi.

OPENING OF THE GALLERY

The Gallery will open on 14.6 at 11:00 by Prof. Markus Gugatschka, art enthusiast and interim director of the Department of Phoniatics at the Medical University Graz, Austria.

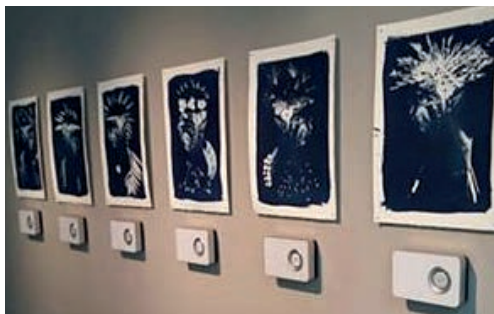
Installation: Vocological studies
Jaana Tyrmi, 2018

"I am interested in the analogies that one can find in the nature, how energy travels in wave form, how we interpret color or sound by the wave length or it's amplitude and how new things are born out of interventions. Cyanotype as one of the oldest forms of photography (by Sir John Herschel, 1842) and magnetic resonance imaging (MRI) as one of the newest imaging technologies (by Raymond Vahan Damadian, 1977) use both iron and potassium as reagents. In human body iron carries oxygen to cells and makes the action possible, where potassium makes it possible for cells to recover, as blue color can soothe and recover our minds.

The project Vocological studies combines new and old imagining technologies and is interested in the border between art and science. MRI and botanical images are the base of these cyanotypes that form a chorus. Under each portrait is demonstrated vowel or consonant that is seen in MRI images above. Listening or analyzing the pictures, phones a word is formed. In MRI pictures all individual information is stripped away, but cyanotypes dress them up again and a new identity is given.

These MRI images are from my first article of my thesis on vocology. Cyanotype intervention will place them under a different kind of audience to study."

Jaana Tyrmi is a doctoral student at the University of Tampere, in Speech and Voice Research Laboratory, School of Education. She has taken part in group exhibitions in Finland and abroad since 2009 and her first solo exhibition took place in 2017.



UEP 2018



3rd course of European Academy of Phoniatics

VOICE THERAPY: THE PHONIATRICIAN'S APPROACH

The course is meant for fulfillment of the requirements for the Phoniatics Board Examination for medical doctors working in Phoniatics

Date: 13th June 2018

Place: Surgical Hospital, Kasarmikatu 11-13, Helsinki, Richard Faltin Hall

PROGRAM

- 08:00-08:20 Opening Remarks
(Tadeus Nawka)
- 08:20-09:00 The Multidimensional Approach to Human Voice:
Phoniatics and Voice Therapy
(Mieke Moerman)
- 09:00- 10:30 Philosophy and Possible Physiological Mechanisms of Voice Therapy
(Reinaldo Yazaki, Ilter Denizoglu)
- 11:00-12:30 Methodology of Voice Therapy
(Ekaterina Osipenko, Ilter Denizoglu)
- 13:30-15:00 Voice therapy techniques
(Nasser Kotby, Bozena Wiskirska-Woznica, Ilter Denizoglu)
- 15:00-16:00 Patient samples, discussion, and comments
(Tadeus Nawka, Haldun Oguz, Bozena Woznica, Ekaterina Osipenko, Mieke Moerman, Ilter Denizoglu)

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UEP Awards

Announcing of the recipients of the UEP awards takes place during the closing ceremony of the 29th UEP Congress.

2018 EUROPEAN PHONiatrICS VOICE AWARD, SPONSORED BY XION



XION is one of the few companies offering complete endoscopy systems for the application fields of arthroscopy, ENT, laparoscopy and gynecology. Innovative instruments and devices with perfect functionality are requisite for modern and patient-caring diagnostics and therapy procedures. XION consistently meets these high demands and has guaranteed highest quality for more than 20 years. In 2014 the European Phoniatrics Voice Award was inaugurated as a UEP award sponsored by XION. This award will be granted on occasion of the 29th UEP Congress in Helsinki.

AWARD

Awards must be accepted in person. Prize monies will be transferred to the prize winners' bank accounts as a lumpsum payment. The decision on the award and whether a scientific work submitted within the period stipulated meets the requirements of this award competition is taken by a jury. The jury is convened by 5 UEP experts who are free in their decision making. UEP board members are excluded from the jury. XION will not provide any jury members and renounces on their right to vote. Up to three scientific works may be awarded a prize with prize monies worth 1500 euros for the first prize, 1000 euros for the second prize, and 500 euros for the third prize.

WHO IS ELIGIBLE?

The 2018 award competition is intended for UEP members and all physicians who are active in phoniatrics as well as colleagues in training in phoniatrics. All UEP members are entitled to nominate candidates. Only one publication or one thesis may be included in the application for the award. The publishing date of the publication or thesis must not be older than three years.

WHAT IS REQUIRED?

The scientific work should deal with a topic concerning voice and should exhibit potential for development. The application must be accompanied by the author's curriculum vitae.

RIGHT OF USE

After submission for the award competition, the scientific work will remain the copyrighted property of the author or the respective publisher. The participants in the award competition declare their consent to XION publishing their names and the titles of their scientific work as part of the XION website and, if applicable, in a XION press release. The participants also agree to visual and sound recordings being made during the award ceremony and being used thereafter. The jury's decision is final. There is no legal recourse.

2018 EUROPEAN PHONiatrICS EUHA HEARING AWARD



The European Union of Hearing Aid Acousticians (EUHA) is an association for all persons working in the hearing aid sector for the benefit of people with impaired hearing. The association aims at bringing together hearing aid acousticians, scientists and laymen, who want to take part in specialized further education and vocational training.

In 2013, the award was inaugurated as a UEP award sponsored by the EUHA. The third European Phoniatrics EUHA Hearing Award will be presented in the 29th UEP Congress in Helsinki.

Awards must be accepted in person. Prize monies will be transferred to the prize winners' respective bank accounts as a lumpsum payment. The decision on the award and whether a scientific work submitted within the period stipulated meets the requirements of this award competition is taken by a jury. The jury is convened by five UEP experts who are free in their decision making. UEP Board members are excluded from the jury. The EUHA will not provide any jury members and renounces their right to vote. Up to three scientific works may be awarded a prize with prize monies worth 2000 euros for the first prize, 1000 euros for the second prize, and 500 euros for the third prize.

WHO IS ELIGIBLE?

The 2018 award competition is intended for UEP members and all physicians who are active in phoniatrics as well as colleagues in training in phoniatrics and members of other professions if the scientific work is initiated and supervised by a phoniatrician. All UEP members are entitled to nominate candidates. Only one publication or one thesis may be included in the application for the award. The publishing date of the publication or thesis must not be older than three years.

WHAT IS REQUIRED?

The scientific work should deal with a topic concerning the technical rehabilitation of deficiencies affecting the auditory communication system in children or adults and should exhibit potential for development.

RIGHT OF USE

After submission for the award competition, the scientific work will remain the copyrighted property of the author or the respective publisher. With acceptance of the award, the EUHA will be granted the right of publication of the paper in whole or in parts. At the same time, awardees will undertake to present the award topic at one of the EUHA's conferences, seminars, or courses at the earliest date possible. The participants in the award competition declare their consent to the EUHA publishing their names and the titles of their scientific work as part of the EUHA website and, if applicable, in a EUHA press release. The participants also agree to visual and sound recordings being made during the award ceremony and being used thereafter. The jury's decision is final. There is no legal recourse.

VILKMAN'S BEST POSTER AWARD

This is a new prize of the Union of European Phoniaticians honoring Professor Erkki Vilkmán. Prof. Vilkmán is among the most renowned voice researchers of our time. By a generous contribution from Professor Vilkmán, the award "Vilkmán's Best Poster Award" is inaugurated during the 29th UEP Congress. The award is to be given to young active researcher who manage to present a promising new finding in her/his research addressing a Phoniatic topic in a poster.

The prize of the award is 500 euros

Eligibility: All posters accepted in the congress are eligible for the award. There is no need for separate registration for the best poster award.



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INVITED KEYNOTES, INSTRUCTIONAL COURSES, WORKSHOPS AND ROUNDTABLES

S

S005 Developmental Disabilities: Perspectives and Considerations

Dr. Wael Al-Dakroury^{1,2}, Dr. Silvia Martinez³, Dr. Martine Elie Ph.D.³, Dr. Samirah AlGhamdi⁴

¹Psych Care Clinics, Riyadh, Saudi Arabia, ²Queen Margaret University, Edinburgh, United Kingdom, ³Howard University, USA, ⁴Saudi Health Council, Riyadh, Saudi Arabia

Developmental disabilities are a group of conditions due to an impairment in physical, learning, language, or behavior domains. About one in six children have one or more developmental disabilities or other developmental delays (CDC, 2015). Individuals with developmental disabilities often require more help and support to learn, understand or use information than others. This can affect their speech, language and social interaction skills. This roundtable will present developmental disabilities from the speech and language, behavioral and psychiatric perspectives. Assessment and intervention considerations will be discussed in four sections.

First section will provide an overview on developmental disabilities and discuss the development of initial communication skills. Also included will be a review of the links between different types of developmental speech and language disorders. (By Dr. Wael Al-Dakroury)

Second section will discuss best practices in assessment procedures, with a focus on differential diagnosis leading to appropriate treatment recommendations that include children's social cultural context as related to their disabilities. (By Dr. Silvia Martinez)

Third section will discuss the intervention for preschool and school age children with developmental language difficulties. (By Dr. Martine Elie)

Fourth section will discuss the psychiatric effects of the developmental language disorders (DLD), mental disorders comorbidity, how to apply full assessment and different modalities of treatment for the child and his family. (By Dr. Samira Al-Ghamdi)

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S007 Ultrasound in Phoniatics

Univ-Prof. Dr. med. **Wolfgang Angerstein**¹

¹*Department for Phoniatics, Pedaudiology and Musicians' Medicine, University Hospital Düsseldorf, Medical Faculty of Heinrich-Heine-University, Düsseldorf, Germany*

This hands-on course will focus on possible phoniatic ultrasound applications.

Different sonographic techniques (such as B-mode, TM-mode, color duplex) and their phoniatic indications will be explained. Theoretical remarks will be followed by practical demonstrations on an ultrasound unit.

We will discuss ultrasound of lips, tongue, lateral hypopharyngeal walls, upper esophageal sphincter, pseudoglottis (ructus phonation in laryngectomized patients), ectolarynx (skeleton) and endolarynx (vocal folds, vestibular folds). Finally, we will talk about sonographic examination of cervical venous stasis in hyperfunctional dysphonia.

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S010 The Human Recurrent Laryngeal Nerve and Cervical Surgery. Prevention. Diagnosis. Treatment.

MD Robert Kesmarszky¹, **MD Bertrand Joly**², **MD Ekaterina Osipenko**³

¹*KR Synchron Bt., Budapest, Hongrie*, ²*Hopital de la Misericorde, Ajaccio, France*, ³*Russian Association of Phoniatics, Moscow, Russia*

A significant number of the human vocal fold immobility cases can be related to pathologies involving the recurrent laryngeal nerves leading to their palsy or paresis. The expressivity of the consequences is variable, in serious cases may lead to important problems of the respiration, phonation, swallowing and may strongly impact the quality of life.

Though the macroscopic anatomy of the nerve, its course, possible branching patterns, anatomical relationships, microscopic anatomy and differences of the two sides are well studied and landmarks like the inferior thyroid artery, the tracheo-esophageal groove or the tubercle of Zuckerkandl may help the surgeon besides of the usage of nerve monitoring, a growing number of surgeries may harm it. Classically, the surgery of the thyroid gland used to be cited but interventions of the cervical spine, the carotid arteries, the esophagus and the thoracic area, especially on the left side may cause damage.

As the surgical rehabilitation is a developing area and besides of the risks and costs is up to now less available, prevention and other means of the rehabilitation are in the focus. The recent round table tries to give an up-to-date panorama of the risk factors of developing palsy related to surgery including the anatomy and the tolerance to trauma; the involvement in the case of thyroid pathologies and how to avoid trauma during these interventions. Diagnosis and treatment emphasised from the phoniatic point of view is discussed.

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S017 Late talkers: background factors and the predictive value of late language emergence

Suvi Stolt¹, Leila Paavola-Ruotsalainen², Sira Määttä³, Suvi Vehkavuori²

¹University Of Helsinki, Helsinki, Finland, ²University of Oulu, Oulu, Finland, ³Niilo Mäki Instituutti, Jyväskylä, Finland

The prevalence of late talkers (LT), i.e. children who acquire their expressive language late and who have no obvious reason for delayed language emergence, is roughly 10-20%. Although not all of the LT children will have a permanent language delay, approximately 20-70% of LT children will have specific language impairment at school entry.

This Round Table Session will focus on the factors related to the late emergence of language. The first section will discuss on the potential predictors of late language emergence and also on the factors that might have a role in influencing later language outcomes. Special emphasis will be put on children's social-emotional development and on the mother-child interaction.

The second section will discuss features of pre-linguistic development in children with late language emergence and explore their connections to later language abilities and self-regulatory skills. The third section will focus on the slow early language development in a special group of high-risk children, i.e. prematurely born children.

Especially the possible predictive value of early language development in terms of the language abilities at five years of age will be considered. In the fourth section, the results of the two screening methods will be compared with the results of a formal language test at 2;0. Special emphasis will be on what kind of screening methods should be used and what language abilities should be measured when aiming to identify weak language development at an early age.

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S026 Using Peer-Mediated Strategies to Enhance Communication for Students with Severe Disabilities

Lou-Ann Land¹, Judith Page¹, Jane Kleinert¹, Jacqui Kearns¹, Harold Kleinert¹

¹University of Kentucky, Lexington, United States

Typically developing children offer peers with disabilities relevant and appropriate models for communicating and learning new skills. The proposed session is based on findings and principles from two highly effective, evidenced-based statewide initiatives: the TAALC project, funded by the Kentucky Department of Education and KY Peer Support Network Project funded by the Commonwealth Council on Developmental Disabilities.

Experts in both communication and special education will present data on peer-mediated strategies used to support learners with developmental disabilities and complex communication needs to develop oral and written language skills, increase communicative competence and acquire new academic and social skills. More than a dozen studies, including a randomized, controlled study, have shown the efficacy and social validity of peer support arrangements implemented in inclusive middle and high school classrooms.

We will discuss a dynamic program in which school teams and peers learn to use AAC when interacting with students with disabilities and to utilize a variety of evidence based communication strategies, including aided language modeling, throughout the school day and across all environments. School personnel also learn to foster social interactions between peers.

Learning Objectives

1. discuss the rationale and supporting data for SLP involvement in the development of peer mediated strategies for students with developmental disabilities
2. list three strategies to increase communication and social interaction among students with and without disabilities
3. describe two ways students without disabilities can learn to support the use of AAC for students with severe disabilities and complex communication needs

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S028 3-Zones Voice Model

Michel de Kort¹, Prof. Dr. Felix de Jong^{2,3}

¹Bernhoven Hospital Uden Netherlands & Michel de Kort Vocal Training Houten Netherlands, Uden/Houten, Netherlands, ²Bernhoven Hospital, Uden, Netherlands, ³KU Leuven, Belgium

3-Zones Voice Model©
Michel de Kort & Felix de Jong

Many factors are involved in voicing and voice problems. In voice therapy the various factors frequently can be corrected easily, but in case one factor is damaged irreversibly, the other factors must form an adequate compensatory organisation. Optimal adjustment of the factors that determine voicing requires time. In practise, patients often do not have or do not want to spend long time. Therefore, there is a need of a relatively simply applicable support of quick control of voice problems. The main goals of the 3-Zones Voice Model© are:

1.
(Relatively) easy achievable, audible and/or kinesthetic perceptible instructions offer grip in therapy, daily life and work.
2.
Motivating by quick result in the first 10 minutes (in voice experiments).
3.
Strong appeal to transfer into daily life and work.
4.
Strong appeal to see the voice problem in a wider perspective of aspiring to a correct balance between hypertonus and hypotonus.

The starting-point is the supra-glottal approach of voice problems: constriction of muscles in mouth and throat. Patients, clients, singers, almost all feel and/or hear that one instruction is helping: speaking goes easier, muscles of mouth and throat feels more relaxed, the voice sounds with more fullness, breathing goes easier. There is an appeal to immediate transfer to daily life and/or work that gives clarity and direction, and challenge to take responsibility. Sometimes there is a negative result. That's a clear sign for the ENT- specialist to focus on structural deficit.

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S033 Laryngeal mechanisms in various singing styles

Lisa Popeil

¹Voiceworks, Los Angeles, United States

In this 45-minute workshop, Lisa Popeil will explore various laryngeal mechanisms as used in sung genres such as opera, operetta, Musical Theater “legit” and “belting”, pop, rock, soul and jazz.

Laryngeal mechanisms to be explored are larynx heights, pharynx widths, vocal registers, vocal fold closures and vibrato.

There are not only numerous differences between classical and commercial voice genres involving laryngeal mechanisms but also variations between each vocal style. Although resonance differences play a key part in genre authenticity, laryngeal mechanism differences play an important part as well.

Lisa Popeil, MFA in Voice, is based in Los Angeles and is the creator of the Voice-works® Method, the Total Singer DVD, numerous books and CDs, has contributed to the “Journal of Voice”, “Journal of Singing” and the “Oxford Handbook of Singing”. www.popeil.com

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S035 Are professionals' and parents' perceptions on child's development congruent with each other?

Professor Wiebke Scharff Rethfeldt¹; Professor Elin Thordardottir ^{2,3}; Adjunct Professor Kerttu Huttunen ^{4,5,6}

¹Hochschule Bremen – City University of Applied Sciences, Germany; ²McGill University, Montreal, Canada; ³ReykjavíkAkademian, Iceland; ⁴University of Oulu, Oulu, Finland; ⁵MRC Oulu, Oulu, Finland; ⁶Oulu University Hospital, Finland

Children are frequently assessed both in clinical and educational settings, and the assessment results affect many important clinical, medico-legal and educational decisions. Therefore, we need to be aware of the unanimity, validity and reliability of assessments made by different quarters. In this Roundtable, data obtained from multiple environments of children and adolescents are presented, e.g., from research projects using triangulation – simultaneous data retrieval from different sources.

The first presentation describes lexical development of multilingual toddlers in everyday family and nursery settings; Language Environment Analysis System (LENA™) was used to repeatedly collect audio recordings from children visiting a nursery, and from a set of bilingual twins. Analyzed data were compared to information about case history, language usage, developmental milestones, and to parental estimates.

The second presentation reports on the first and second language learning: 1) how parents' responses to a language screening instrument match with children's lexical test results, and 2) how adolescents rate their proficiency in their first and second language, how their parents rate them, and how these results match the measured proficiency.

The third presentation illustrates how parents of children with a cochlear implant report on their child's milestones of auditory and speech development and how this information matches the observations of professionals. Another projects' data shows consistency of parents and professionals views in assessing 1) children's behaviour with Strengths and Difficulties Questionnaire, and 2) the ability of children to recognize emotions from speech, facial expressions and bodily communication.

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S038 Laryngeal EMG

Berit Schneider-stickler¹, Matthias Leonhard¹, Claus Pototschnig²

¹Medical University of Vienna, Vienna, Austria, ²Medical University, Innsbruck, Austria

Laryngeal electromyography (LEMG) evaluates the integrity of the neuromuscular system of the larynx. The LEMG can either performed by an endolaryngeal or transcutaneous approach in order to record action potentials generated by the laryngeal muscles during voluntary and involuntary activity. The LEMG signals are particularly useful for differentiation between neuromuscular disorders, paralysis, paresis or ankylosis as possible etiologies of vocal fold movement disorders.

The authors will give an introduction into LEMG investigation (approaches, LEMG needle, techniques) and signal interpretation (qualitative and quantitative LEMG interpretation).

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S043 Using your ear for accurate diagnosis of hoarseness

James Thomas¹
¹James P Thomas MD - Voicedoctor, Portland, United States

Hearing a voice disorder is the most valuable tool available to the laryngologist/phoniatrist/therapist and yet remains the most underutilized test in laryngology. Vocal capabilities consists of identifying the comfortable speaking pitch, maximum phonation time, highest and lowest pitch while noting the quality of voice production. Loud and soft voice production at low pitch and repeating at high pitch will elicit audible vocal cues revealing vibratory impairment, also suggesting the pitch and volume at which to record the stroboscopic examination.

Objective: The participant will learn to hear and describe the sounds of the two major types of hoarseness - air leak and diplophonia.

Objective: The participant will learn techniques for eliciting hoarseness, choosing a pitch, recording and then correlating the source of the sound impairment. Stroboscopic examination findings will be correlated.

The participant will listen to audio recordings, making a prediction about the pathology that will be visualized. The stroboscopic examination will be viewed for comparison with the prediction. By the end of the workshop, the participant should be forming a more accurate differential diagnosis after listening to an impaired voice.

For example, weakness of the vocal cords will be exacerbated at low pitch and low-volume sound production. Vocal cord swellings such as nodules, polyps and hemorrhage will most significantly impair vocal cord vibration at high pitch and low-volume. Each type of vocal cord vibratory impairment generates a specific pattern on this type of vocal capabilities pattern matching elicitation - a vocal signature.

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S046 Physiology of registers and laryngeal mechanics (with live demonstrations)

Dr Franco Fussi¹, Eleonora Bruni, Erika Biavati, Alberto (Albert) Quarello (Hera)
¹Centro Audiologico Foniiatrico Azienda Usl, Ravenna, Italy

The terminology in the teaching of the singing voice in relation to the vocal registers, although pedagogically useful, is rather confusing because the terms used refer to perceptive differences due to changes sometimes of source, sometimes of vocal tract. Starting from the historical statements by Manuel Garcia Junior we will compare the perceptive aspects with the electroglottographic and laryngostroboscopic data, and we will relate, starting from the studies of Roubeau, Henrich and Castellengo, the registers intended in a didactic sense with the underlying laryngeal mechanisms: glottal closure (CQ), mass, involvement degree of the cover in vibration, recruitment of other vibrating sources. The various laryngeal mechanisms underlying the didactic terms used in singing pedagogy will then be examined in detail and exemplified: MO: vocal fry, pulse register and distorted voices (false-chords and arytenoids)

M1: full register in chest and head consonance, modal register, belting, heavy mechanism

The “mixed” register: M1 mix2, M2 mix1

M2: muscular and postural falsetto, falsettone, flute, stop-closure falsetto, light mechanism

M3: laryngeal whistle, stop-closure whistle.

We will offer some practical demonstrations by Italian singing teachers.

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S047 Professional singing - new physiological insights

Dirk Murbe², Lisa Popeil³, Franco Fussi¹

¹Centro Audiologico Foniatico Azienda Usl Ravenna, Italy, ²Audiologie und Phoniatrie an der Charité – Universitätsmedizin Berlin, ³Voiceworks, Los Angeles, California USA

Vocal tract adjustment strategies in singing are at the service of resonance in relation to various singing styles. After bringing new insights about this, we will see that, in an alternative, modern view of vocal registers, singers can feel and discern two separate mechanisms (Mode 1 or Mode 2) within the vocal folds, larynx and supra hyoid muscles, which allows for a wide variation of timbres and volumes in either Mode 1 or Mode 2 across the vocal range.

At the end we can give a view In the field of vocal technique we can define “Belt-ing” as a way of singing with a consistent use of the full register (M1). Instead, the mixed voice consists in the ability for the singer to mix the registers to the point of no longer perceive them as separate units. We will compare the physiology of these two ways of artistic phonation and their acoustic, perceptive and didactic characteristics.

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S053 Permanent augmentation of vocal fold paralysis with fascia

Heikki Rihkanen¹

¹Helsinki University, Helsinki, Finland

Objective: This instructional course will take you through the techniques of harvesting, processing and injecting autologous fascia lata into the paralyzed vocal fold. A review of results, pitfalls and advantages will be given.

Methods: The histology of minced and injected fascia has been studied on dogs’ larynxes. Human voice results (jitter, shimmer, NHR) have been studied by acoustical analysis and vocal fold closure by videostroboscopy. Perceptual voice quality has been assessed applying GRBAS-scale from recorded samples in a blinded manner. In each measurement, a sample taken before augmentation was compared to a sample after the procedure.

Results: In Helsinki University Hospital, over 400 patients with unilateral vocal fold paralysis have been operated using autologous fascia lata that was minced and injected into the vocal fold. The procedure has been done under general anesthesia with jet ventilation. A total of 28 patients, in three different studies, have gone through extensive voice analysis. There is a statistically significant increase in maximal phonation time, reduction of jitter, shimmer, NHR; improvement of voice quality; improvement of vocal fold closure. There is no evidence of consistent deterioration of voice during the follow-up. Very few major complications have been recorded: one temporary tracheostomy, one injection on the wrong side, some thigh haematomas requiring evacuation.

Conclusions: Autologous fascia is a well-tolerated and safe augmentation material for unilateral vocal fold paralysis. The results are comparable to other materials (hydroxyapatite), but to the best of our knowledge permanent and in most cases achieved by a single procedure.

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S066 Voice ergonomics, what is new?

Docent Leena Rantala¹, PhD Sofia Holmqvist², Docent Anita McAllister³, Docent Eeva Sala⁴

¹University of Tampere, Tampere, Finland, ²Åbo Akademi, Turku, Finland, ³Karolinska Institutet, Stockholm, Sweden, ⁴University of Turku, Turku, Finland

Voice ergonomics is the theoretical and fundamental understanding of human voice production, speaking and speech hearing in different communication environments. The Roundtable session will provide a short overview on voice ergonomics. The researchers will present what we know and, what we don't know in the fields of voice ergonomics. New challenges in future school environments will also be explored and discussed.

Posture is an important element of voice ergonomics. Teachers use many unergonomic postures while teaching. The most typical unergonomic posture is turned or forward thrust head. Other frequently used postures are hunched upper back, raised shoulders and twisted torso. These postures increase the occurrence of voice symptoms and affect voice use.

Stress is an important part of voice ergonomics. Psychological stress involves many hormonal and physiological changes in the body. The stress reaction induces changes in breathing pattern, blood flow, muscle activity and gland secretion. These changes affect voice production on many levels. Since a healthy voice is essential in many occupations, especially occupational voice users, a voice problem can become stressor triggering the stress reaction.

Children also need voice ergonomics, since habits are established during childhood. Many children are subject to high noise levels in both pre-school and school settings. The effects of this exposure and if and how children react to noise is not fully understood. Legislative action related to activity noise is difficult. Studies investigating children's reactions and effects of noise exposure and preventive measures will be discussed.

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S067 Speech and language development in children with hearing impairment

Sanna Häkli¹, Ulrika Löfkvist², Sari Kunnari³, Taina Välimaa³, Krista Wallenius³, Dirk Mürbe⁴

¹Oulu University Hospital, Phoniatrik Department, Oulu, Finland, ²University of Oslo, Department of Special Needs Education and Karolinska Institute, Department of Clinical Science, Intervention and Technology, Oslo and Stockholm, Norway and Sweden, ³University of Oulu, Research Unit of Logopedics and Child Language Research Center, Oulu, Finland, ⁴Technische Universität Dresden, Department of Phoniatrics and Audiology and Saxonian Cochlear Implant Center, Dresden, Germany

The first presentation, given by Associate Professor Löfkvist, describes how LE-NA-device© (Language Environment Analysis) is used in recording 0–4-year-old children's vocalizations and speech production, and their auditory environment. The development of children's speech and listening skills are explored and a comparison is made between hearing children and children with hearing impairment (HI).

Next, a nationwide multi-center, prospective, longitudinal research project is described in which comprehensive information on speech perception and spoken language development is collected in children with HI on all levels of language, i.e., phonology, lexicon, semantics, morphosyntax and pragmatics. Professor Kunnari presents an overview of the research protocol. Adjunct Professor Välimaa then presents the first results on language and speech outcomes in children with HI at the age of 3 years, and the associations between background factors and spoken language outcomes. PhD student Wallenius will talk about pragmatic development of children with HI between the ages of 4 and 6 years.

The last presentation that of Professor Mürbe describes the objective assessment of speech and language development after cochlear implantation. A main incentive for supplying hearing impaired children with a cochlear implant is the prospect of oral language acquisition. There are only a limited number of studies, which focus on an objective assessment of speech and language development after cochlear implantation based on event-related brain potentials (ERPs). Electrophysiological data about the time course of processing prerequisites of language acquisition will be presented as well as semantic learning in very young children with a cochlear implant.

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S074 Care of the Professional Voice

Professor Michael Benninger¹

¹Cleveland Clinic, Cleveland, United States

The field of Vocal Arts Medicine and Professional Voice Care has grown as an there has become increased awareness that the vocal demands of performs may be unique and may lead to performance-specific voice disorders.

An increase understanding of the methods of voice and singing production, coupled with increased sophistication of both basic science research and refined objective testing has allowed for improved diagnostic and therapeutic options for vocal performers. Improved diagnostic capabilities through better visualization of the larynx, and increased ability to assess the pliability and vibratory characteristics of the vocal folds has led to refinements in clinical and surgical techniques supported through pre and post treatment observations.

This presentation will be a review of the unique aspects of Professional Voice Care set the stage for clinical approaches to the assessment and management of Professional Voice users. It will serve as a quick overview of evaluation, the roles of objective measures of vocal fold function and the importance of quality of life measures and stroboscopy.

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S075 APDVoice - An easily online available database system for a phoniatic clinics

Ass.Prof. Ramil Hashimli¹, Assoc. Prof. Anar Rustamov²

¹Azerbaijan State Advanced Training Institute for Doctors, department of ENT, Baku, Azerbaijan,

²Baku Engineering University, Baku, Azerbaijan

Introduction: Gathering the patient and inspection data into the unique platform are the integral part of daily life of doctors. Furthermore this platform plays crucial role in scientific investigations. Inspection data can be text, voice, video, image and etc. In the apsence of unique platform scholars and investigators in phoniatic clinics are facing with two challenges during their research: 1) Interconnection and correlation among data; 2) Picking up suitable rows of data with low-colorations of fields in order to do implement some statistical methods/ tools in the statistical software.

The main goal of our study is to create an easily online available database system for a phoniatic clinics, which is resolve mentioned above problem.

Methods: In order to make interconnection among data set we implemented simplified artificial intelligence. By using some standardization we could define precise mathematical model among them.

Results: Based on the algorithms and models we developed online database system for a phoniatic clinics called APDVoice (www.apdvoice.com). With the help of the system doctors can very easily enter patient and full-phoniatic inspection data within short time. This inspection data are separately structured, such as complaints, anamnesis, voice hygiene, VHI (general, singing and pediatric), VRQoL, RSI, RFS, DI, CSI, EAT, VLS results, acoustic and aerodynamic analysis, general ENT inspection, diagnosis and treatment methods. System involves inbuilt online acoustic analyses module. Statistical package is also included inbuilt system.

Conclusions: With the APD-Voice, working with patient and inspection data and doing statistical analyzes are more easy.

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S084 Language and social-emotional skills

Professor Marja-Leena Laakso¹, Adjunct Professor Nina Sajaniemi², PhD Student Joanna Kosonen³, PhD Soile Loukusa⁴

¹Faculty of Education and Psychology, Early Education, University of Jyväskylä, Jyväskylä, Finland, ²Faculty of Educational Sciences, University of Helsinki, Helsinki, Finland, ³Educational Programme of Logopedics, Abo Akademi University, Turku, Finland, ⁴Faculty of Humanities, Research Unit of Logopedics, University of Oulu, Oulu, Finland

Child's social-emotional skills influence peer relationships and school success. In the first presentation of this Roundtable, an overview is cast over children's social-emotional development, and, additionally, social and emotional learning (SEL) programmes in supporting children's development. In SEL programmes, child's competences are supported especially in self-awareness, social awareness, self-management and relationship skills, and responsible decision making.

The second presentation describes integrated day care groups as a social communication learning environment of children with special needs. Quality of learning environment and pedagogical methods applied aiming to improve interaction and emotional skills were observed in 24 special day care groups.

The third presentation introduces interrelationships between linguistic abilities and emotion recognition capability in children with Specific Language Impairment (SLI), Autism Spectrum Disorder (ASD), and ADHD. Children in all of these groups often face difficulties both in emotion recognition and expression, and in bodily communication. Emotion Detectives freeware (Tunne-etsivät: <http://tunneetsivat3.oph.oodles.fi/>), an intervention method constructed to support social-emotional development and emotion recognition, is also briefly introduced.

The last presentation describes pragmatic and social language abilities in children with SLI, ASD and ADHD focusing mostly on pragmatic inferencing, theory of mind and emotion recognition. Studies have shown that in ASD pragmatic and social language difficulties are wide, whereas in SLI and ADHD difficulties are mostly evident in pragmatic inferencing and theory of mind tasks demanding high-level verbal processing. In all the above mentioned groups, pragmatic and social language difficulties may hamper children's understanding of others' utterances, intentions and motives in challenging real-life communication situations.

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S092 A multidisciplinary lens on developmental language disorder - Helsinki longitudinal SLI study (HelSLI)

Professor Marja Laasonen^{1,2,3}, MD, PhD Eva Arkkila^{1,2}, MSc Sini Smolander^{1,4}, MSc Pekka Lahti-Nuuttila^{1,2}, MSc, MPsych Miika Leminen^{1,2}, Professor Sari Kunnari⁴

¹Helsinki University Hospital, Finland, ²University of Helsinki, Finland, ³University of Turku, Finland, ⁴University of Oulu, Finland

Developmental challenges, such as developmental language disorder (DLD), need to be investigated at multiple levels of analysis, in a longitudinal setting. In January 2013, we launched the Helsinki Longitudinal SLI study (HelSLI) at the Helsinki University Hospital, Finland (<http://tiny.cc/helsli>). In five subprojects, we investigate DLD at etiological, cognitive, and behavioral levels of analysis: how the child's psychological characteristics and environment influence DLD, how the child's well-being is affected by DLD, the characteristics of DLD in bilingual children, nonlinguistic cognitive correlates of DLD, electrophysiological markers for DLD, and the role of genetic risk factors. The main aim is to improve our understanding of risk and protective factors and early identification of DLD in mono- and bilingual children.

The current symposium will present results on the cross-sectional phase of the study. First talk presents the participant characteristics of the study. Second talk describes effects of age and exposure on language performance in mono- and bilingual DLD and typically developing (TD) children. The third presentation reports results on the relations between nonword repetition and vocabulary in the same groups. Fourthly, we report how nonverbal sequential short-term memory predicts receptive and expressive vocabulary in monolingual TD and DLD children. Last, we present findings on neural dynamics of morphological processing in the monolingual groups.

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S100 UEP Hearing Committee: Current issues of pediatric audiology

Prof. Katrin Neumann¹, Prof. Monika Tigges², Prof. Peter Kummer³, MUDr., Ph.D. Jakub Dršata⁴

¹Dept. of Phoniatics and Pediatric Audiology, ENT clinic, St. Elisabeth Hospital, Ruhr-University Bochum, Bochum, Germany, ²Dept. of Phoniatics and Pediatric Audiology, Community Hospital Karlsruhe, Karlsruhe, Germany, ³Dept. of Phoniatics and Pediatric Audiology, ENT clinic, University of Regensburg, Regensburg, Germany, ⁴Dept. of Otorhinolaryngology and Head and Neck Surgery, Charles University Hradec Kralove, Hradec Kralove, Czech Republic

The new WHO Resolution on the Prevention of Deafness and Hearing Loss as launched in 2017 will be presented and its meaning for phoniatics will be discussed. Acknowledging that 360 million people across the world live with disabling hearing loss, including 32 million children, the WHO urges Member States, to integrate ear and hearing care within the framework of their primary health care systems.

Recurrent otitis media with effusion is a striking problem for the communicative development of children. Although a common medical condition, modes and duration of conservative treatment and indication for surgery are permanently under discussion. In this presentation the current recommendations of the German guidelines on otitis media with effusion will be reported.

Another striking issue of phoniatics is hearing loss caused by congenital cytomegalovirus (cCMV) infections. Such infections are the major cause of non-genetic sensorineural hearing loss in childhood, both at birth and at late-onset. Antiviral therapy may add another treatment option in these cases, mostly preventing progression. Treatment guidelines for infected neonates are currently recommended. Since the majority of children have only mild or non-specific symptoms, screening for cCMV is of major importance.

The last presentation gives an overview of the state-of-the art of treatment of hearing loss with hearing aids and implantable devices. Indications will be discussed and outcome measures listed that assess the audiological benefit for a patient, speech rehabilitation, technical and economical aspects, and quality of life. An outlook on the future of both technologies and their convergence will be given.

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S102 TeleFON, an interactive software service for communication and swallowing therapy

Dr Mieke Moerman¹, Dhr Mathias Colpaert

¹Az Maria Middelares Ghent, Ghent, Belgium

Objective: augmenting social wellbeing of people with communication and/or swallowing disorders

Methods: the software is a multilevel model and communication means between patient and therapist, existing of 1) static databases (anatomical-physiological information, general and specific exercises, general and specific attributes), 2) a logbook which documents and registers the exercises, 3) an interactive communication platform.

Results: the database provide in not only gaining insight in the normal and pathological condition, but also in applying exercises which can be dedicated to a specific patient. The therapist has the opportunity to use the exercises database, but can also upload private exercises in an available frame. The attribute database foresees in support through existing video and audio samples, technical assessment means such as chronometer, metronome, dB and F0 logging, These can also be uploaded in the self-designed exercises. Via the logbook, the patients' performance is documented and ready for review. The latter urges the patient and thus enhances therapy compliance and effectiveness. Using the interactive communication platform the therapist can communicate with the patient on well-defined moments for adjusting or reorienting the therapy.

Conclusion: the goal of TeleFON is not to replace all face to face contacts with a telematic means, but we strongly believe that this software can help avoiding unnecessary transport, optimizing financial and time efforts and augmenting therapy compliance and effectiveness.

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S112 Beyond the identification of language impairment in multilingual children: Current issues in effective service delivery

Dr. Elin Thordardottir^{1,2}, Dr. Wiebke Scharff-Rethfeldt³, Dr. Eva-Kristina Salameh⁴

¹McGill University, Montreal, Canada, ²ReykjavikurAkademian, Reykjavik, Iceland, ³University of Bremen, Bremen, Germany, ⁴Lund University, Lund, Sweden

Considerable research efforts have focused on developing more reliable assessment methods for bilingual and multilingual children. Subsequent service delivery to multilingual children has, to date, received far less research attention. Together, the talks of this roundtable present clinical and educational scenarios that indicate that the identification of language impairment in multilingual children is by no means a guarantee of effective service delivery. Interestingly, the strategies reported on in some cases blur the lines between multilingual children with and without a formal diagnosis of language impairment.

The first talk addresses children learning Icelandic as a second language. Research consistently shows a large proportion (over half) of this population to persistently score very low (-2SD) on Icelandic language tests without having language impairment, raising questions about formal diagnosis being an adequate criterion for eligibility for services.

The second talk reports on survey data from Germany showing private practice service delivery to multilingual children without LI diagnosis stemming from special education services in schools being overloaded, a situation that indicates a shift in the traditional separation of intervention practices seen as therapy versus those seen as falling under education or tutoring.

The third presentation reports on measures taken in Sweden to counteract high drop out rates from therapy offered to preschool children, due to high rates of non-attendance especially among bilingual children. Drop out rates were subsequently greatly diminished by instituting a collaboration between preschool staff and SLP, by delivering direct SLP services within preschools and by parental involvement.

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S115 The future management of voice disorders

Taru Ilmarinen¹, Markus Gugatschka², Antoine Giovanni³, Jean-Paul Marie⁴, Tadeus Nawka⁵

¹Helsinki University Hospital, Finland, ²Medical University of Graz, Austria, ³Marseille Public University Hospital, France, ⁴Rouen University Hospital, France, ⁵Department of Audiology and Phoniatrics, Charité Universitätsmedizin Berlin, Berlin, Germany

The future management of voice disorders round table focuses on emerging new treatment options, and current top research of voice disorders. Scarring deteriorates micro-structure of the vocal folds, leading to impaired vibratory pattern and glottic insufficiency.

This panel highlights current and upcoming tools for the management of vocal fold scar. The optimal treatment for vocal fold paralysis is still an unsolved chapter in laryngology. This fascinating field, with new and promising options such as laryngeal reinnervation, stem cell implantation, and laryngeal pacing, are discussed by our expert panelists.

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S117 UEP Voice Comittee Where are we now and where are we going? Therapy

Mieke Moerman, John Rubin, Josef Schlömacher-Thier, Ilter Denizoglu

Moderators: M. Moerman J. Rubin

Speakers:

John Rubin: Stress and the performer: issues and awareness

Stress is ubiquitous and is particularly problematic for the performer who must deal with stress related to performance as well as stress outside of the performance arena. This talk reviews some of the stressors that the performer faces.

Josef Schloemicher-Thier: Indirect Phonosurgery, Challenge and Limitation

Indirect videostroboscopic surgery is well established for small, benign lesions of the vocal folds and for small lesions with narrow base and with a distinct demarcation to the vocal tissue. Other indications are contraindication of general anesthesia or procedural preference by the patient. The authors will present a retrospective study of 107 patients. They'll also discuss the pretherapeutic documentation, indirect transoral vocal fold augmentation technique and the post-therapeutic management and results.

Ilter Denizoglu: Voice Therapy: The Phoniatician's Approach.

Voice therapy is the essential treatment modality of a voice patient with a given voice disorder. It may be the primary method or secondary (during, before, after) to medication or surgery. It cannot be defined solely as the application of a given exercise schedule; exercise is a tool, not the goal. In voice therapy, the clinician has an action plan, uses tools (exercises) and monitors the patient (motor learning stages) throughout the treatment.

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S118 UEP Voice Committee Where are we now and where are we going? Diagnostics & Definitions

John Rubin, Mieke Moerman, Ekaterina Osipenko, Tamas Hacki, Bozena Woznica

Moderators: J. Rubin, M. Moerman

Speakers:

Ekaterina Osipenko: The connection between autoimmune diseases and voice disorders

Findings show that in autoimmune disease, 97% of laryngeal pathology is of an organic nature, amongst which the rare implication of bamboo nodes of the vocal folds. However, knowledge remains too superficial for being able to increasing diagnostic capabilities of clinicians and allowing high-quality voice rehabilitation.

Bozena Woznica: Remarks to professional voice disorders and occupational disease

The percentage of occupational voice disease decreased from 36%(1999) to 11%(2014) of all occupational diseases in Poland. The question is whether it's due to better medical care, improvement of socio-economic situation or improvement of proper diagnostic procedures. Distinguishing voice complaints and disorders in professionals from actual legally defined occupational voice disease is difficult.

Tamas Hacki: Aetiological redefinition of phonation disorders

Non-organic „voice disorders“ like psychogenic, behavioral (voice misuse, vocal loading, muscle tension, etc.) or sensory dysphonia are often labeled as „functional dysphonia“. But „functional“ does not say much in the sense of etiology. We advocate leaving this terminology and replacing it by the term “malregulative” as a way of describing the mostly temporary faulty regulation or “lapses” of the nervous system in the absence of central or peripheral changes.

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S123 Management of Pediatric Swallowing Disorders, what is new?

Pascale Fichaux Bourin¹, Tamer Abou-Elsaad², Daniele Farneti³

¹University Hospital Of Toulouse, Toulouse, France, ²ORL Dept, Faculty of Medicine, Mansoura University, Mansoura, Egypt, ³AUSL Romagna - Rimini Infermi Hospital, Rimini, Italy

There is an increased incidence and prevalence of pediatric dysphagia. The causes are multiple and frequently associated and that is why diagnosis and clinical presentation are so varied. The aims of the management are to improve swallowing/feeding abilities and to prevent risks of respiratory complications, undernutrition, oral deprivation, developing feeding disorders and inadequate interactions between parents and their child.

The purpose of this round table is to provide an overview of the current challenges in the management of pediatric dysphagia and to define recommendations for research and practice.

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S128 An Evidence- Based Approach to Tongue-tie

Tuomas Klockars¹

¹Helsinki University Hospital, Helsinki, Finland

Tongue-tie is a frequently found congenital anomaly with a prevalence of approximately 4 % in the newborn population. The abnormally tight lingual frenulum results in varying degree of decreased tongue mobility. The clinical phenotype varies from absence of significance to rare complete ankyloglossia.

The consequences and management of tongue-tie are controversial. Tongue-tie is suggested to cause a range of problems such as breast- feeding difficulties, speech disorders, problems with deglutition and dentition, oral-motor dysfunction and social issues related to the limited function of the tongue.

The aim of the presentation is to give an evidence-based overview regarding the diagnostics, indications for surgery, timing of surgery and the method of surgical repair.

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S129 Problems in language development - does the ICD-11 give us new aspects?

Elina Mainela-Arnold¹, Katrin Neumann², Marja Asikainen³, Mari Qvarnström⁴

¹Faculty of Speech Language Pathology, University of Turku, Finland, ²Department of Phoniatrics and Pediatric Audiology, ENT-clinic, St. Elisabeth Hospital, Ruhr-University Bochum, Germany, ³Department of Phoniatrics, Tampere University Hospital, Finland, ⁴Department of Phoniatrics, Kuopio University Hospital, Finland

UEP Speech and Language Committee Session

The International Statistical Classification of Diseases and Related Health Problems (ICD) is the global standard for reporting and categorizing diseases and health-related conditions. WHO is currently developing new ICD-11 and the coding of developmental speech-language disorders will change. In this session we discuss the revision process, changes, diagnostic criteria and their effects on clinical work.

The first presentation describes the multinational and multidisciplinary CATALISE consensus statements on identifying childhood language disorders. Due to lack of agreement on diagnostic criteria and terminology for childhood language disorders, professionals representing several different disciplines from English speaking countries participated in consensus studies. Delphi technique was used to formulate consensus statements, which provide groundwork towards internationally accepted diagnostic criteria for developmental language disorders.

The second presentation deals with the upcoming ICD-11. During the commenting process of the ICD-11 Beta version the presenter proposed the classification of developmental speech-language disorders to be (1) specific developmental speech-language disorders (including phonological speech sound disorders), (2) developmental speech-language disorders associated with language-relevant comorbidities (e.g. hearing loss, auditory processing disorder, autism spectrum disorder, intellectual developmental disorder, language-relevant syndromes), also named unspecific developmental speech-language disorders, (3) phonetic speech sound disorders, and (4) speech-language disorders, not specified (assessment not performed). It seems advantageous that - compared with the ICD-10 - auditory processing disorders will be shifted from developmental speech-language disorders to disorders of the ear.

The last presentation provides a Finnish clinician's view on the forthcoming changes from the viewpoint of clinical practise in Finland.

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S133 Office-based phonosurgery

Prof. Dr. Markus Hess¹

¹Deutsche Stimmklinik, Hamburg, Germany

Office-based procedures with topical anesthesia avoid the risks that come with general anesthesia, and they also avoid the disadvantages that may occur with placement of the laryngoscope in suspension microlaryngoscopy. Furthermore, office-based intervention is mostly offered in an ambulatory setting and thus can help saving costs.

The method of office-based indirect surgery of the larynx is more than one hundred years old, but is rarely chosen as first option to treat patients with laryngeal disorders. However, there is a revival of its use within the last decade. All of the following procedures can be performed in an office-based indirect surgery setting: incision, excision, mobilization, coagulation, vaporization, suction, injection, implantation, and augmentation.

In general, office-based surgery has the advantage of having (i) realistic physiological muscular tension of the vocal folds, (ii) physiological endolaryngeal configuration and (iii) the possibility to immediately assess the voice as a result of intervention and using videostroboscopy.

Many instruments were designed to treat laryngeal problems: cupped forceps, alligators, scissors, needles etc., in various sizes and shapes, for transoral approaches. Tiny instruments are used for flexible transnasal endoscopes. Injection needles as well as laser fibers can be passed and precisely placed into the laryngeal cavity. Procedures can be done alone, however, some interventions requires a third hand (physician or nurse).

Several additional topics will be covered, e.g. topical anesthesia, sedation, medication, gag reflex control, precaution settings, airway etc. Information will be given on laser interventions. Finally, augmentation with injectables is addressed.

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S134 Photoangiolytic lasers

Prof. Dr. Markus Hess¹

¹Deutsche Stimmklinik, Hamburg, Germany

The photoangiolytic KTP laser has been used in laryngology since many years. It was shown that indications are widespread and not only for ectatic vessels and papilloma. In principle, even other wavelengths are able to demonstrate this effect of addressing red chromophores like hemoglobin, while 'sparing' white or translucent tissues such as vocal fold tissue surfaces.

The new 445nm wavelength 'blue laser' shows very similar effects, comparable to the KTP-laser, and can be used therapeutically in laryngeal tissues. Furthermore, it is shown in multiple examples that it works very similar to the KTP laser. It is capable of treating subepithelial vessels due to its photoangiolytic properties, it can coagulate and carbonize at higher energy levels, and can be used in noncontact and contact mode.

The major advantage is its property of being transmitted via small glass fibers, e.g., through a working channel of a transnasally forwarded flexible endoscope. However, and in contrast to the KTP, it can also be used as a cutting laser, thus combining very much wanted properties of diode or CO₂ lasers with photoangiolytic lasers.

In addition, some further advantages are the (1) portability of the shoe box sized blue laser, the (2) potential reduction of pulse rates to less than a millisecond, (3) greater effects on tissue compared to KTP with similar energy and pulse settings, (4) better cutting properties than the KTP, and thus (5) more possibilities for usage in laryngology as well as in other fields or surgery.

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S141 Voice in female-to-male transsexuals

MD, PHD Deuster Dirk¹, Peter Matulat¹, Prof., MD, PHD Antoinette am Zehnhoff-Dinnesen¹

¹Clinic Of Phoniatrics And Pedaudiology, University Hospital Muenster, Muenster, Germany

Cross-sex hormonal treatment with testosterone in female-to-male (FTM) gender dysphoric individuals causes various bodily changes including a deepening of the voice. This "voice reassignment" may explain why FTM rarely access medical services because of voice problems and the consequent lack of standard values for voice change as well as the disparity in voice research. Therefore, we investigated FTM to determine how voice and larynx changes within the first year of testosterone treatment.

Nine FTM were analyzed regarding changes of vocal range, perturbation parameter (Jitter, Shimmer, Glottal-to-Noise-Excitation Ratio [GNE], Dysphonia Severity Index [DSI]), and Voice Handicap index (VHI) at nine time slots and differences of formants f1 to f4 [vowel /a/) before and one year after beginning of testosterone treatment. To investigate laryngeal changes each two laryngoscopic pictures at different time points (factor "time") or with different speaking fundamental frequencies (factor "SFF") were rated by 8 phoniatrists.

In parallel with deepening of speaking fundamental frequency a decreasing of lowest and highest FO was detectable. There were no significant differences in vocal range, Jitter, Shimmer, GNE and DSI over time. The VHI significantly decreased over time ($p=0.01$) with an effect size of 0.449. There was a significant correlation between VHI and SFF ($r=0.963$, $p<0.001$), whereby the difference of voice frequency in semitones before the treatment and after 1 year was the only significant predictor for satisfaction after 1 year ($B = 0.442$; $SE = 0.049$). Neither the factor "time" nor the factor "SFF" explained the different expert's rating results of the laryngoscopic pictures.

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S144 Assessment of pediatric swallowing disorders, state of the art

Johanna Nokso-Koivisto¹, Mariam Shadi², Samia Bassiouny², Maria Andrea Lopez Salcedo³

¹Department Of Otolaryngology, Helsinki University Hospital, Helsinki, Finland, ²Unit of Phoniatrics, Department of Otolaryngology, Faculty of Medicine, Ain Shams University, Cairo, Egypt, ³Department of Otolaryngology, Hospital Clinico San Carlos, Universidad Complutense de Madrid, Madrid, Spain

Swallowing disorders in children consist a large variety of different and sometimes very complex disorders. The assessment of patients and achieving the diagnosis can be very challenging in children. Fiberoptic endoscopic evaluation of swallowing (FEES) and videofluoroscopic swallowing study (VFSS) are the most commonly used tools for the instrumental assessment of pediatric dysphagia.

To choose which one to perform is an essential decision to initially make, considering the advantages and disadvantages of each and knowing that some breakdowns are better viewed on using a certain tool. In this round table we will discuss the indications and outcomes of FEES and VFSS in swallowing disorders in pediatric population in general and in patients with neuromuscular incoordination and dysphagia. In addition, awake transnasal esophagoscopy in instrumental evaluation of pediatric dysphagia will be presented.

Vocal fold immobility in children, regardless of its cause, may induce respiratory or feeding difficulties with a variable recovery rate. This session will also review the diagnostic workup, assessment modalities and the importance of clinical findings in order to aid the decision-making process for each case in children with vocal fold immobility.

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S145 Revisiting some basic mechanics of vocal fold oscillation

Philippe DeJonckere¹

¹KULeuven (University of Leuven) and Federal Agency For Occupational Risks (Brussels), Brussels / Leuven, Belgium

Intraglottal pressure is the driving force of vocal fold vibration. Its time course during the open phase of the vibratory cycle is essential for understanding the mechanics of phonation. A positive flow of energy from the airstream to the tissue can be realized only if the net aerodynamic driving force has a component in phase with the tissue velocity (the first derivative of displacement, thus with a phase lead of 90° over displacement). For demonstration, a model is used in which the intraglottal pressure is computed from the transglottal flow and the air particle velocity on the basis of the Bernoulli energy law.

The important point is the asymmetry of the pressure curve between the opening portion and the closing portion of the cycle: when the airflow curve is skewed to the right with respect to the glottal area curve, the intraglottal pressure during the opening phase exceeds that during the closing phase. The skewing results from air compressibility and vocal tract inertance. In vivo measurements are presented that confirm data from modeling. The intraglottal pressure values are quantified during the open phase in different intensity conditions by using in vivo calibrated flow and area measurements.

Furthermore, a detailed analysis of vocal onset is presented: during a soft/breathy onset, the intraglottal flow and pressure change from a non-oscillating situation to an oscillating situation. Evolution of intraglottal pressure and phase shift between intraglottal pressure and glottal opening account for this transition.

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S154 Auditory processing disorder –the diagnostics, co-morbidities and effects of noise on language development

Bozena Woznica², Leena Ervast¹, Donna Geffner³, Elina Niemitalo-Haapola⁴

¹NeuroTeam Ltd and University of Oulu, Oulu, Finland, ²University of Medical Sciences of Poznan, Poznan, Poland, ³Hofstra University, New York, New York, USA, ⁴University of Oulu, Oulu, Finland

The term (Central) Auditory Processing Disorder (C)APD) refers to difficulties in the processing of auditory information in the central nervous system. The deficiency may occur in the following auditory abilities or skills such as in sound localization and lateralization; auditory discrimination; auditory pattern recognition; temporal aspects of audition including temporal integration, temporal discrimination (e.g. temporal gap detection), temporal ordering, and temporal masking; auditory performance in competing acoustic signals (including dichotic listening); and auditory performance with degraded acoustic signals. The disorder is not caused by higher-order language, cognitive, or related factors although it may be associated with or cause difficulties in language, learning, cognitive, and communication functions. This roundtable will discuss the auditory processing disorder from the viewpoints of diagnostics, co-morbidities, and the effects of noise on language development.

The first presentation introduces diagnostic procedures of auditory processing disorders from the medical point of view.

In the second presentation, comorbidities of the auditory processing disorder will be discussed. Characteristics of each comorbidity, differentiation between them, and the way they often co-exist will be presented.

The third presentation will discuss the importance of the ability to process auditory information in a precise way, meaning of the auditory processing for language acquisition, and the effects of noise on language development on behavioral and neural level.

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S155 Alteration of the voice pitch surgically

Teemu Kinnari¹, Gauthier Desuter², James P. Thomas³

¹Helsinki University Hospital, Helsinki, Finland, ²Université Catholique de Louvain, Louvain, Belgium, ³voicedoctor.net, Portland, USA

A person with a desire to alter the voice pitch is a relatively recent challenge in phonosurgery. Most of them are transgender people who seek help in matching their voice to their gender identity. Personal voice is important tool for expression of self-esteem and gender. The perceptual gender identification is based on several details of voice, however, the primary cue in gender identification is the fundamental frequency.

Surgical alteration of the voice is mainly needed for male-to-female (MtoF) persons as a part of the gender reassignment surgery. Similar methods are used to treat female androphonia. Surgery may also be needed to decrease the voice pitch in cases such as puberphonia and for female-to-male (FtoM) transgenders.

A number of methods have been developed to alter the voice. In this round table we are going to hear introduction to three surgical voice alteration methods.

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S156 UEP 2020 Session: Case Discussions in Phoniatics & Laryngology

Professor Haldun Oguz¹, Associate Professor Sevtap Akbulut², Associate Professor Hakan Birkent³, Assistant Professor Ilter Denizoglu⁴, Associate Professor Emel Cadalli Tatar⁵, Professor Kursat Yelken⁶

¹Fonomer, Ankara, Turkey, ²Yeditepe University, Istanbul, Turkey, ³Centrium Medical Centre, Istanbul, Turkey, ⁴Medical Park Hospital, Izmir, Turkey, ⁵Health Sciences University, Ankara, Turkey, ⁶Uskudar University, Istanbul, Turkey

The 30th Congress of the Union of European Phoniaticians will be held in Antalya, Turkey in 2020. Professor Haldun Oguz, the congress president of UEP 2020, will be the moderator of this case discussion session.

The panelists are the core organizing committee members of the meeting. They are renowned, dedicated otolaryngologists all subspecialized in laryngology, phoniatics, and phonosurgery.

The panel will have a highly qualified discussion on a wide spectrum of cases ranging from benign vocal cord disorders, neurogenic laryngeal diseases, professional voice care, to voice surgery for pitch problems, functional voice problems, and airway disorders.

The discussion will focus not only on proper diagnosis of the specific problems, but also on differential diagnosis and different treatment approaches; medical, behavioural and surgical.

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S157 Management of benign vocal fold lesions

Teemu Kinnari¹, Michael Benninger², Markus Hess³, Heikki Rihkanen¹, John Rubin⁴

¹Helsinki University Hospital, Helsinki, Finland, ²Cleveland Clinic, Cleveland, USA, ³Deutsche Stimmklinik, Hamburg, Germany, ⁴University College London Hospitals, London, UK

Management of benign vocal fold lesions such as vocal fold polyp or granuloma is taught to all otorhinolaryngologists and is daily routine for phonosurgeons. Nevertheless, there are no widely accepted guidelines for decision making between surgical and conservative treatment and we find a wide variety of treatments that are still in practice.

The round table “Management of benign vocal fold lesions” consists of four presentations and panel discussion by well-known laryngologists. We are going to hear the results of two questionnaires concerning the treatment protocols of common benign vocal fold lesions in Europe and there after introduction to decision making between surgical and conservative treatment and options of surgical techniques.

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S158 Voice and speech perception: Human vs Automatic

Professor Virginie Woisard¹, Jérôme Farinas², Alain Ghio³, Jean Schoentgen⁴

¹Voice and deglutition unit, University Hospital of Toulouse, Toulouse, France, ²Institut de recherche en Informatique de Toulouse, University of Toulouse Paul Sabatier, Toulouse, France, ³Laboratoire Parole et Langage, CNRS - Aix Marseille University, Aix en Provence, France, ⁴Biomedical Instrumentation and Signal processing (BioI&S)" research unit, Université Libre de Bruxelles, Brussels, Belgium

Perception of speech signal is a challenging matter with regard to managing voice and speech disorders. Assessing the meaning of speech and voice as well as laryngeal function remains a research issue that is shared by several communities. The aim of this round table is to set out the problems of perception of voice and speech disorders by clinicians, computer scientists and language scientists and to discuss how the matching of the several outlooks contributes to creating new clinical tools.

The round table be is organized as follows:

V. Woisard: Human vs automatic, the limits of voice and speech perception for clinical use

J. Farinas: How can computer speech recognition be used?

J. Schoentgen: How can synthetic signals contribute to clinical assessment?

A. Ghio: How to build clinical tools?

Discussion: "Human vs Automatic" or "Human and Automatic"?

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S164 FEES Scoring Protocol: the "Whats", the "Whens" and the "Wheres"

Dr. Mariam Shadi¹

¹Lecturer of Phoniatrics, Ain Shams University, Cairo, Egypt

Flexible endoscopic evaluation of swallowing (FEES) is one of the commonest methods to study oropharyngeal dysphagia on account of many advantages it offers. It is a sensitive, reliable, safe and feasible tool with low incidence of complications.

FEES incorporates assessment of laryngeopharyngeal anatomy (structure) and physiology (function) as it relates to swallowing and assessment of swallowing mechanism (saliva, food and liquid) in order to determine swallowing safety and integrity.

This can be made possible by introducing a flexible endoscope across the nasal passages into the pharynx, so that the pharynx, larynx and upper esophageal sphincter are viewed directly from above.

Information obtained from this examination includes airway protection, timing and direction of the bolus during the swallow, presence of pooling, residue of material in the hypopharynx and sensitivity of the pharyngeal and laryngeal structures. It can thus assist in the diagnosis and making treatment recommendations.

A scoring system can help organizing information in a detailed, accurate and systematic way, it can detect severity and renders comparisons more objective.

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S177 Controversy: hoarseness and reflux - is there any scientific relationship?

James Thomas¹, Markus Hess², Yakubu Karagama⁴, Gauthier Desuter³

¹James P Thomas MD - Voicedoctor, Portland, United States, ²Deutsche Stimmklinik, Hamburg, Germany, ³Université Catholique de Louvain, Brussels, Belgium, ⁴Manchester Royal Infirmary, Manchester, UK

There is a widely held belief that reflux is related to the complaint of hoarseness. Is there substantial scientific evidence to support this belief?

Questions to be discussed (most associated with a short video clip)

What is the strongest evidence that persuades you that reflux laryngitis is a cause of voice disorders? A paper? Personal experience? some other evidence?

Is redness a factor in your decision-making on stroboscopy/endoscopy of the larynx? What role does redness play in sound production or vocal cord oscillation?

Does interarytenoid pachydermia impact sound production?

How do you identify glottic edema?

Is there proposed mechanism that better explains central vocal cord swellings such as nodules and polyps than talkativeness and vocal trauma alone?

What changes do you notice on endoscopy which strongly suggest reflux is impairing the voice?

Does mucus accumulation on the larynx persuade you that reflux is present?

Thinking about the statement that, "All sound impairment has to come from a mechanical change in vibration."

A) Is that statement believable? If not, why not?

B) If believable, how might reflux alter vocal cord vibration and what would the endoscopist look for?

Thinking about the statement that, "Much of today's apparent belief in reflux laryngitis is dependent upon endoscopy artifact and as equipment and examinations improve, mechanical causes of sound impairment will be identified displacing the common diagnoses of GERD, Silent Reflux and LPR."

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S181 Low dysphagia: assessment in a multidisciplinary perspective

Dr Daniele Farneti¹, Prof Perttu Arkkila², Gilles Delahaut & Hélène Antoine³

¹Ausl della Romagna - Rimini Hospital, Rimini, Italy, ²Gastroenterology Division - University Hospital, Helsinki, Finland, ³Department of Otolaryngology, Head and Neck Surgery, Louvain University Hospital of Mont-Godinne, Yvoir, Belgium

Swallowing, in normal conditions, is a complex neuromuscular act, including reflex muscular activities, responding to sensory inputs, under a cortical and sub-cortical real time modulation. The whole aero-digestive tract takes part in it, with a corresponding need for a complete and comprehensive clinical evaluation of swallowing, under pathological conditions. The interaction between the upper and lower digestive tracts interferes with aerodigestive activities.

Aiming for a multidisciplinary approach, the team who take care of patients with swallowing disorders should consider the status and the functional activity of the lower part of the digestive tract. As deglutologist, the phoniatician has to interact with other professionals who manage the lower digestive tract, mainly the gastro-enterologist and the radiologist: the morphological and functional information that these professionals can offer to the team, are essential for a complete evaluation of the patient. Morphology and function summarize criteria of effectiveness and efficiency, which can better display the physiopathology of the swallowing act.

In a phoniatic setting, the possibility of a direct visualization of the lower digestive tract represents an interesting opportunity to implement in daily practice: other diagnostic indications or further radiological or gastroenterological consultation prescription are immediately considered and carried out. The gastroenterologist, on the basis of the phoniatic report can complete with a conventional endoscopy or decide for further functional assessment; the radiologist in their turn, can give the team important information about morphology and motility.

The round table will offer the perspective of the three professionals involved in the assessment plan.

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S182 Laryngeal laser surgery and its outcomes on voice

Doctor Lise Crevier Buchman¹, Professor Sergei Karpischenko², Doctor Yakubu Karagama³

¹Hôpital Européen Georges Pompidou, Paris, France, ²ENT Department, First Pavlov State Medical University, Saint Petersburg, Russia, ³University of Manchester Hospital NHS Trust, Manchester, UK

Since the sixties, laser use and applications have expanded rapidly in laryngeal surgery.

Lasers have offered a time- and cost-efficient alternative to cold surgical techniques, and have been employed in the treatment of numerous benign and malignant laryngeal pathologies. The physical principle of laser is characterized by the conversion of laser energy into heat, to allow cutting, vaporization, or coagulation of the affected tissue.

However, lasers can damage adjacent tissue and create vocal fold scarring.

In this round table, our panel will discuss different cases of laser surgery indications for benign vocal fold lesions and paralytic laryngeal stenosis.

In the case of bilateral vocal fold paralysis, the cause might be iatrogenic, trauma, infection, neurological, neoplastic or idiopathic. Therefore, various investigations might be required to identify the primary cause and orient the therapeutic management. Following emergency tracheostomy to save life, other surgeries might be performed at a later stage to expand the glottis. These techniques include CO2 laser partial arytenoidectomy, cordectomy, cordotomy and lateralization sutures. The author presents the techniques in his clinical armamentarium and the patient selection for each technique.

When managing laryngeal tumors particularly for patients with early glottic cancer, endoscopic laser cordectomy afford briefer hospital stays and shorter wound recovery periods. Evolution of voice outcomes was studied over one year by multidimensional analysis including Voice Handicap Index (VHI), perceptual evaluation with GRB scale, acoustics (FO, jitter, shimmer, Noise-to-Harmonic Ratio), and Maximal Phonation Time.

Minimal voice assessment for outcome measurements of voice quality and follow-up indicators will be discussed.

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S187 Unilateral vocal cord paralysis: experience on augmentation

MD Rami Taulu¹, Professor, MD, PhD Michael Benninger², Professor, MD, PhD Markus Hess³, MD, PhD Petri Reijonen⁴

¹Tampere University Hospital, Tampere, Finland, ²Cleveland Clinic, Cleveland, USA, ³German voice clinic, Hamburg, German, ⁴Päijät-Häme Central Hospital, Lahti, Finland

This round table presents three prominent phonosurgeons, who will share their experience on vocal cord augmentation. The purpose of this round table is to present how these experts currently perform the augmentation and give the audience practical tips to take home.

Professor Hess will start with a presentation which covers many “how I do it” aspects. Ten most useful tips and tricks about how to achieve a good vocal cord augmentation result and which pitfalls should be avoided will be revealed for both beginners and advanced operators.

Professor Benninger will address in detail the office use of Restylane (hyaluronic acid) to treat paralysis, paresis and glottic incompetence. He will also present his study of patient hemodynamics in office versus OR interventions. The results suggest that office interventions are associated with more stable hemodynamic parameters.

Doctor Reijonen is an expert of autologous fascia injections. His presentation will educate the audience on how to harvest and inject the autologous fascia in unilateral vocal cord paresis under general anesthesia. He will also outline how he harvests autologous fat from abdominal subcutaneous tissue (a.m. Campos). He will discuss the choice of different filling materials, why he prefers to do the injections under general anesthesia and how to determine when is the right time to inject.

Questions from the audience are very welcome!

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S190 Swallowing and Head and Neck Cancer

Dr. Mari Markkanen-Leppänen¹, Dr. Gauthier Desuter², Dr. Virginie Woisard³

¹Helsinki University Hospital, Dept. of ENT Head and Neck Surgery, Helsinki, Finland, ²Voice & Swallowing Clinic ENT Head & Neck Surgery Dpt. Cliniques universitaires Saint-Luc Université catholique de Louvain, Brussels, Belgium, ³Voice and Swallowing Center, Toulouse, France

Head and neck cancer treatment often impair speech and swallowing. Despite the same muscles accomplish these crucial functions swallowing is often less well preserved. Several clinical factors in cancer patient population prognosticate posttreatment swallowing function. Among these are tumor site and size, type of surgery including reconstruction method and the overall treatment modality, single vs. multimodal.

The detrimental effect of dysphagia on the quality of life in cancer survivors can be minimized by the communication strategy within an interdisciplinary dysphagia management team.

Established dysphagia management will support safe swallowing and maintaining the nutritional state with minimum dietary restrictions.

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S192 New fields of application for electrodiagnostics and electrotherapy

Berit Schneider-Stickler¹, Univ.Do. Dr. Claus Pototschnig², Assoz. Prof. Priv.-Doz. Dr.med. univ. et scient.med. Markus Gugatschka³, Dr. Virginie Woisard⁴

¹Medical University Of Vienna, Vienna, Austria, ²Medical University, Innsbruck, Austria, ³Medical University, Graz, Austria, ⁴Voice and Swallowing Center, Toulouse, France

Electrical stimulation is currently evaluated in clinical trials for its potential therapeutic value.

Electrical stimulation can target several diseases and conditions of the larynx.

Combined advanced diagnosis in vocal fold paresis based on LEMG and electrical stimulation (e.g. laryngeal pacing) of the PCA may help to improve the accuracy of the prognosis as well as to determine the selection of the vocal fold to undergo surgery in order to preserve as much as possible vocal fold functionality.

In temporary ULVP, direct superficial electrical muscle stimulation (EMS) can be used for activation of intrinsic laryngeal muscles as an alternative to conservative voice therapy. The EMS should promote the regeneration without negatively interfering with normal regeneration processes. Little is known about the effect of electric current on the larynx.

In further studies, it could be demonstrated that functional electrical stimulation led to a hypertrophy of single muscle fibers of the vocalis muscle, counteracting the age-related sarcopenia thus diminishing the glottal gap in an aged ovine model. Results of several stimulation protocols will be presented.

EMG of swallowing is a multi-tracks assessment of muscles involved in swallowing performed by surface or needle electrodes. In this last case, the technic is very useful for a better understanding of pathophysiological mechanism including deep structures as the upper esophageal sphincter.

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S195 Emergency voice medicine and when to cancel a concert

Josef Schlömmicher-Thier¹, Markus Hess³, Louisa Traser²

¹International Voice Center Austria, Deutsches Stimmzentrum, Zentrum für Musikermedizin Freiburg, ²Division of Phoniatics, Department of Otorhinolaryngology, Head Neck Surgery Inselspital, Bern, Switzerland, ³Deutsche Stimmklinik, Hamburg, Germany

Professional singing must be considered as a high performance sport requiring special training conditions and top physical performance. The professional singer is under enormous time pressure as a premiere sets a precise deadline. The audience wishes to see an radiant hero and a stellar performance.

Problemes of the professional singers, when sudden voice problems set in:

- responsibility towards the members of the of the cast
- anxiety of the management
- exertion of the conductor's influence
- the decision of recasting, is often difficult
- tempting record contracts and the future career

The physician in attendance must devise an effective treatment concept that will enable the patient to make full use of his/her voice within the shortest possible time. To find a right decision for a conservative therapy or for a potential phonosurgery procedure, the physician takes a high degree of responsibility. Any unduly prolonged "vocal rest for safety reasons" induces unnecessary cancellations, involving the risk of sizable financial loss for the singer and even future contracts. Inadequate vocal rest and overloading the voice with an untreated organic disease can likewise constitute a great danger. Finding the adequate treatment plan in such cases requires considerable sensitivity and sometimes as well necessitates assertiveness and authority.

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S196 Optical and Acoustical diagnostics of voice disorders

Prof. Dr. Felix De Jong^{1,4}, Prof. Dr. Secundino Fernández², Dr. James Thomas³

¹Bernhoven Hospital, Uden, Netherlands, ²School of Medicine, Universidad de Navarra, Pamplona, Spain, ³www.voicedoctor.net, Portland, USA, ⁴KU Leuven, Belgium

Many factors play a role in the origin and maintenance of voice disorders. Therefore, attention must be paid to various factors in different domains. In this workshop the focus is on optical and acoustical diagnostic tools. For the study of the physiologic characteristics for speech and singing voice in healthy subjects, it is interesting to know the kinematics of the chest wall during speech and singing voice production.

These kinematics can be assessed by accurate and non-invasive application of optical plethysmography. Results showed Intraclass Correlation Coefficient values higher than 0.75 and coefficient of variation of Method Error values less than 10% for most variables indicating that is a reliable instrument to assess chest wall volumes during speech and singing voice in healthy subjects. Videokymography registers the vocal fold mucosal wave in real-time mode by sampling of one line of pixels with a frequency of 7200/sec.

The selected line can be moved over the entire length of the vocal folds to yield a complete picture. By this method vocal fold mucosal wave and asymmetries can be reliably assessed in irregular vibration. Diagnostic capacity and accuracy can be improved by Acoustical Diagnostics by Ear. Vocal Capabilities Pattern Matching is a dynamic clinical diagnostic approach to examination of the voice. When an examiner listens to the voice in a detailed manner that covers the two main sound production capacities of the larynx - volume and pitch - precision during endoscopic and stroboscopic examination of the larynx improves.

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S197 Clinical approach of voice problems

Prof. Dr. Felix De Jong^{1,2}

¹Bernhoven Hospital, Uden, Netherlands, ²KU Leuven, Belgium

Many factors of different nature and strength are involved in the origin and maintenance of voice problems. For a correct diagnosis and adequate treatment, the various factors need to be identified and addressed. This goes beyond a merely biomedical approach. A frame to handle all factors in a broad perspective is depicted in a clinical approach that is explicitly patient-orientated.

The 3-phase psychological cascade model of Anderson is the floor plan. Causal factors bring the patient into the first phase in which the patient experiences the problem as a threat. This phase is characterized by anxiety, fear and terror of loss, struggle against the loss and searching for help. Exhaustion, isolation, and depression can occur.

Maintaining factors (physical, functional and socioeconomic) and inadequate coping strategies (unawareness, externalisation and dependence) can make the patient stay in this phase and impede the flow to the second phase that is characterised by surrender to the loss and giving in without giving up, which is followed by clarity and acceptance of the problem. This enables the patient to proceed to the third phase of renewal and adaptation. New skills and tools lead to recovery.

The psychological cascade model involves many different factors that are part of the biopsychosocial model of Engel. In this biopsychosocial perspective, physical, mental and social factors determine (vocal) health in a continuously interactive way. If adequate treatment is not reached or is not durable, patients proved to be deadlocked in the first phase of the psychological cascade.

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S198 Osteopathic approach to examination and treatment of muscle tension dysphonia

Mr Jacob Lieberman¹, Prof Markus Hess

¹Prof Markus Hess Deutsche Stimmklinik, Hamburg, Germany

MTD is a common tenacious complaint in voice clinics. It is of an unclear aetiology. A lot has been written about MTD, and different therapeutic approaches have been suggested. Yet, in the absence of vocal fold lesion, it stands to reason that while the symptoms stem from laryngeal muscle tension, no rational direct system for diagnosis and treatment have been suggested.

Laryngeal osteopathy is designed to assess muscle tension and joint function, therefore can offer a rational approach for diagnosis and treatment of all the mechanical contributing factors of MTD and Globus. As the condition is also related to state of mind, psycho-therapeutic insights seem to be an important contribution to that presentation.

The hands-on workshop introduces the principles behind osteopathic approach, and will show some clips of clinical examination and results. Participants will be given participants to palpate their own laryngeal muscle tension and joint movements. Breathing mechanics, which is the power source behind speaking and singing, will be discussed and will be practiced. The workshop will use the Lieberman protocol for assessment of laryngeal muscle tension and breathing mechanism.

Workshop outline:

Static Assessment Procedures

Dynamic Assessment Procedures

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S203 Tubes in voice therapy? – What – why – how? Hands-on workshop with discussion

Ph.D. Anne-Maria Laukkanen¹, MD, MSc Ilter Denizoglu², Ph.D. Greta Wistbacka³

¹University of Tampere, Speech and Voice Research Laboratory, Tampere, Finland, ²Izmir MedicalPark Health Center, Otolaryngology Department, Izmir, Turkey, ³Åbo Akademi University, Faculty of Arts, Psychology and Theology, Turku, Finland

This workshop presents both traditional and more recently lanced voice therapy and training techniques that apply phonation in different tubes and straws, the outer end held either in air or submerged in water, which adds a second sound source, water bubbling, and results in increased airpressure oscillation in the vocal tract.

The audience will have the opportunity to get acquainted with and practice the use of short glass tubes recommended by Gustav Spiess in Germany in the turn of the last century, glass resonance tubes lanced by Antti Sovijärvi in Finland in the 1960's, silicone Lax Vox tubes later recommended by Marketta Sihvo, as well as plastic drinking straws and narrow stirring straws used more recently, also in singing training, as recommended by Ingo Titze.

Additionally, a therapy device DoctorVox, combining water resistance and inhalation air humidifier, developed by Ilter Denizoglu, will be introduced. At the side of demonstrations and rehearsals, we will discuss e.g. similarities and differences between the methods, effects of length, diameter and material of the tubes, the positive effects and clinical implications of the methods as well as limitations and potential contraindications.

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S207 Brain Diseases and Hearing Impairment (IAPA)

Jose Juan Barajas De Prat¹, Doris-Eva Bamiou², Jakub Drsata³

¹Clinica Barajas, Santa Cruz de Tenerife, Spain, ²National Hospital for Neurology and Neurosurgery, London, United Kingdom, ³Department of Otorhinolaryngology and Head and Neck Surgery, University Hospital Hradec Kralove, Kralove, Czech Republic

Brain Diseases and Hearing Impairment (IAPA)

Stroke is more prevalent in preterm babies in particular, while after the first year of life it can be caused by conditions especially by cerebro-vascular pathology and malformations. There is evidence to suggest that while auditory ability is impaired, the developing brain has a great potential for plasticity, and auditory training together with other means of rehabilitation may help improve the child's listening skills and support his/her learning within educational settings. Other neurological disorders that are known to affect auditory processing in children include brain trauma, epilepsy, metabolic disorders and congenital brain malformations.

A classification and cause of the traumatic Brain Injury is presented as well as its hearing implications. Evaluation of auditory processing in these children is of paramount importance not least because in some cases the auditory processing deficits will be the presenting features of the disorder while appropriate deficit driven management strategies need to be identified to help support the child's listening, communication and overall wellbeing. These presentations will discuss neurological causes of auditory processing disorders on children with some illustrative cases that highlight diagnostic and management considerations

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S208 Findings of essential instrumental assessment of swallowing in normal and disturbed conditions

Dr Tamer Abou-Elsaad², Dr Perttu Arkkila³, Prof Antonio Schindler⁴, Dr Daniele Farneti⁵, Sébastien Van der Vorst⁶

²Phoniatic Unit, ORL Department, Faculty of Medicine, Mansoura University, Mansoura, Egypt, ³Department of Gastroenterology/University of Helsinki, Helsinki, Finland, ⁴Head Phoniatic Unit, Sacco Hospital, University of Milan, Milan, Italy, ⁵AUSL della Romagna, Head of the Audiology Phoniatic Service, Ambito territoriale Rimini - Infermi Hospital, Rimini, Italy, ⁶Department of Otolaryngology, Head and Neck Surgery, Louvain University Hospital of Mont-Godinne, Yvoir, Belgium

Adult Dysphagia is a multifaceted topic involving a multidisciplinary team approach in both assessment as well as management. Instrumental evaluation of adult dysphagia has undergone multiple paradigm shifts over the year with the rise and fall of several instrumental evaluations after studying their benefits versus their limitations and adverse effects.

This roundtable will encompass the following items highlighting the recent trends in instrumental evaluations. We hope to help our audience have more insight o instrumental evaluations and how they can be used efficiently and effectively. The round table will encompass “Normal and abnormal findings in adult modified barium swallow study”.

The aim of this presentation is to demonstrate the variables in normal adult swallowing compared to the abnormal findings in dysphagic adult patients as shown in MBS study. It will also encompass “Swallowing in neurodegenerative disease: swallowing and nutritional data in patients with ALS, Huntington and Parkinson disease” as well as Residue and their evaluation with endoscopy.

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S209 Experience of Thyroplasty in Treating Glottal Gaps

MD Miia Ruuskanen^{1,2}, MD, professor Michael Benninger³, MD, MSc Gauthier Desuter^{4,5}, MD, PhD, professor Hans Mahieu^{6,7}

¹Turku University Hospital, Turku, Finland, ²University of Turku, Turku, Finland, ³Cleveland Clinic, Cleveland, United States, ⁴Cliniques universitaires Saint-Luc, Brussels, Belgium, ⁵Université catholique de Louvain, Louvain, Belgium, ⁶Meander Medical Center, Amersfoort, Netherlands, ⁷Ruysdael Clinics, Amsterdam, Netherlands

Thyroplasty (type 1) is the most commonly performed type of laryngeal framework surgery to treat glottal gaps. Thyroplasty is used for a variety of indications including vocal fold paralysis or paresis and vocal fold bowing, and it is considered as a standard treatment when long-term improvement is required. However, careful patient selection and preoperative planning are needed to optimize voice results.

In this round table experienced laryngologists will discuss some important features of thyroplasty. Mr. Benninger will give an overview of the method and present ideas about preoperative CT scan design. Mr. Desuter will speak about the standardization of voice outcomes indicators (VOIs) to evaluate and compare different surgical treatments for unilateral vocal fold paralysis. He has been launching a survey among the European laryngologists to acquire surgeons' opinions on 11 preselected VOIs. In a recent review, these 11 VOIs were found to represent 80% of the VOIs cited in the literature. Mr. Mahieu will present common pitfalls of the medialization thyroplasty, and how to avoid them. The most important pitfalls are 1) suboptimal design and positioning of the cartilage window, and 2) anterior overcorrection of the prosthesis. They can be prevented by using endoscopic monitoring and taking into account the variability in the shape of thyroid cartilage and other landmarks.

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S214 Management of the professional voice back stage, in the office, and in the operating room

Professor Tadeus Nawka¹, Professor Reinaldo Yazaki², MD Matthias Weikert³

¹Charité - Universitätsmedizin Berlin, Dept. Audiology and Phoniatrics, Division Voice, Swallowing, Musicians' Medicine, Berlin, Germany, ²Artistic Voice Institute, Albert-Einstein-Hospital, Sao Paulo, Brasil, ³Austrian Voice Institute, Regensburg, Germany

Singers seek the advice of a phoniatician when they worry about a possible damage of the voice in an upcoming performance, when their voice becomes tired or when it is not as resilient as before.

Among the most frequent diagnoses there are upper respiratory infection, structural organic vocal fold lesions, psychological and drug addiction issues, hypertrophic nasal turbinates, adenoids, palatine tonsils, deviated septum, and chronic rhinitis or reflux laryngitis.

The outpatient examination is based on videolaryngostroboscopy and flexible endoscopy in order to assess movements of the vocal folds and the vocal tract.

The consequences of may lead to the decision not to sing and take measures of further treatment such as medication, inhalations, voice rest, voice therapy, or even phonosurgery.

In cases of extremely important events where the singer feels to be indispensable, both the doctor and the patient have to consider carefully if the risk of the performance can be taken responsibly. The motto here is: "The show must go on. Save the singer's fee, but avoid health risks."

When acting as a physician backstage, most problems that occur are not related to voice but rather to other health issues such as circulatory or respiratory problems, injuries, or mental stress. In these cases the physician is well advised to have first aid medication at hand.

Phonosurgery basically has to be planned in the long term. There are only rare exceptions when an acute surgical intervention helps to save the performance and avoid cancellation.

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S218 Non-organic voice disorders

Reinaldo Yazaki¹ Yakubu Karagama² Hanna Freiberg³

¹Artistic Voice Institute, São Paulo, Brazil ²Central Manchester University Hospital Department of Otolaryngology, Manchester, UK ³Department of Phoniatrics, University of Turku, Finland

Functional dysphonia can be challenging in diagnosis and management. The singers with the functional abnormalities of the larynx and vocal tract are a great part of a phoniaticians practice and are those with more past history of failed medical therapies.

Movements or muscular contractions/relaxations of the vocal folds and the vocal tract can be also medically diagnosed as normal or handicapped. An overview of detailed phoniatic examination of the previously mentioned issue, the treatment of the source and the filter will be discussed. There will also be a discussion about a new approach to treating patients with functional dysphonia using visual biofeedback therapy and vocal cord injection in resistant cases.

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S219 Multidisciplinary teams in swallowing centers

Prof. Virginie Woisard ⁶, Leena-Maija Aaltonen ², Kaarina Ruusuvirta ³, Minna Apajalahti ³, Perttu Arkkila ⁴, Gauthier Desuter ⁵, Antonio Schindler ¹

¹ University of Milano, Italy, ² Department of Otorhinolaryngology-Head and Neck Surgery, University of Helsinki and Helsinki University Hospital, ³ Department of Phoniatics, University of Helsinki and Helsinki University Hospital, Helsinki, Finland, ⁴ Department of Gastroenterology, University of Helsinki and Helsinki University Hospital, Helsinki, Finland, ⁵ Voice & Swallowing Clinic, ENT Head & Neck Surgery Dpt, Cliniques universitaires Saint-Luc, Université catholique de Louvain, Belgium, ⁶ Voice and deglutition unit, Department of Otorhinolaryngology-Head and Neck Surgery, Larrey Hospital, Toulouse University Hospital, Toulouse, France

Inter-disciplinary communication is of key importance when it comes to oropharyngeal dysphagia management in acute care hospital. Different professions need to interact in order to assess patients with dysphagia and design the best possible treatment. Phoniaticians, speech and language pathologists, radiologists, dieticians and gastroenterologist should find a way to communicate among them and present the ooutcome of their joint effort to other health care professions.

Although the importance of multidisciplinary team is world wide recognized it still is a difficult organizational problem. Space, time, budgets as well as protocol from different unit should be cohordinated. Authors from France, Finland and Belgium will present their personal solution to this organizational issue.

The Cliniques universitaires Saint-Luc in Brussels developed a numeral language that allows fast communication and that articulates FEES numerical results with a numerical texture/rehabilitation characterization. This communication system is designed for general acute care institutions where the average length of stay (LOS) is about 6 days. It does not supersedes other specific assessments tools especially designed for disease specific or long term care units or institutions.

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S220 Holistic view of Auditory System: An Electrophysiological Study

Jose Juan Barajas de Prat¹

¹Clinica Barajas, Santa Cruz de Tenerife, España

When pair electrodes are attached to the surface of the scalp and after amplification we can obtain a variation in voltage over time. These voltage changes are known as Electroencephalogram (EEG). If we present an auditory stimulus ,(or a stimulus of other sensorial modality) to a human subject while recording the EEG, in a particular time domain, (epoch), the voltage changes within this epoch, are specifically related to the brain response to the stimulus, and known as a brain potential. These responses can be obtained as an obligatory phenomenon, in the sense that its recordings are strictly evoked by the presentation of stimulus. This Evoked potentials, are clinically studied at different time domains from the terminal organ to the cortex.

At long time domains more neurons become involved, and certain geometric configuration and parallel orientation, is required in order to detect the response by surface electrodes. In addition, some components of these potentials are related to a variety of processes that are invoked by subject task performer. These demands responses are know by the more neutral term, as event related potential or (ERP). In this presentation we present a holistic view of the auditory system, based on the evoked and event related potentials (cognitive components) and its clinical implication.

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S221 Understanding Auditory Processing Disorder: Multidisciplinary Collaboration for Assessment and Management

Deborah Swain¹

¹California Speech-language-hearing Association, United States

This keynote session will emphasize the importance of multidisciplinary collaboration for assessment, management and treatment of auditory processing disorders. Auditory processing disorders can have implications for literacy, learning and social disorders effecting academic and social outcomes. This session will present observed behaviors and manifestations that may be present in academic or social environments that are symptoms of an underlying auditory processing disorder.

The presentation will address how best to recognize and interpret these symptoms and make referrals to the appropriate professionals for assessment. There is a likelihood that APD can co-occur with other disorders such as dyslexia, ADHD, Specific Language Impairment, Social-Pragmatic Disorder, and Non-Verbal Learning Disability. Auditory processing disorder is often a “silent disorder” because of its co-morbidity and subtle challenges. Collaboration with other professionals assists with accurate diagnosis.

The members of the multidisciplinary team will be described as well as the specific test batteries that are typically administered by these individuals in order to conduct a comprehensive assessment of this population. The role of the speech-language pathologist, audiologist, psychologist and educational therapist will be presented.

This session will discuss how multidisciplinary assessment results are interpreted and what specific important information is gleaned from the assessments and why. Finally, the session will offer suggestions for management and treatment for auditory processing disorders, assistive technology, and how multidisciplinary collaboration benefits overall outcomes for school-aged children.

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S222 Treatment of unilateral vocal fold paralysis

MD, PhD Heikki Rihkanen¹

¹Helsinki University, Helsinki, Finland

Objective: A critical review of the treatment effects and an evidence based treatment suggestion for unilateral vocal fold paralysis (UVFP)

Methods: Review of the literature.

Results: The paralyzed half of the larynx will gain spontaneous reinnervation in the vast majority of cases (80-85%). Due to nerve sprouting, atrophy of laryngeal muscles is seldom present even though ab-adduction of the vocal fold is lost. Recent studies suggest that voice therapy on symptomatic patients is more effective than counseling only. It is likely to be more beneficial if started within 3 months. If voice therapy is started later than 12 months after UVFP, is not likely to improve the measured voice quality. Likewise, studies show small, but significant benefit of early (< 6 months) augmentation with temporal fillings in reducing the need for later interventions. The reason is not known. Several injectable materials are available. Hydroxylapatite and hyaluronic acid pastes are well marketed and readily available for a transoral or transcervical injection in office settings. Thyroplasty type I with non-resorbable implants has long been the gold standard for permanent medialization. Arytenoid adduction improves the voice in a limited number of patients. Ansa cervicalis nerve grafting might improve long term results with laryngeal injection but, so far, has not gained much popularity. Surgery of immobile vocal fold improves voice, but is difficult to reach normal voice parameters. On average, the maximal phonation time after operation is around 12 seconds and the VHI-score 30, regardless of the operation method.

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S223 Globus pharyngeus – are investigations needed?

Pia Järvenpää, MD, PhD, ¹Taru Ilmarinen, MD, PhD, ¹Ahmed Geneid, MD, PhD, ¹Petra Pietarinen, MD, PhD, ¹Teemu J. Kinnari, MD, PhD, ¹Heikki Rihkanen MD, PhD, ¹Johanna Ruohoaho, MD, ¹Mari Markkanen-Leppänen, MD, PhD, ¹Leif Bäck, MD, PhD, ¹Perttu Arkkila MD, PhD, ²Leena-Maija Aaltonen MD, PhD.¹

¹Department of Otorhinolaryngology – Head and Neck Surgery, University of Helsinki and Helsinki University Hospital, Helsinki, Finland, ²Department of Gastroenterology, University of Helsinki and Helsinki University Hospital, Helsinki, Finland.

Objective of the study Globus patients with normal ear, nose, and throat (ENT) status are a diagnostic challenge. The symptom may cause concern about malignancy, leading to possibly unnecessary further investigation. The aim of the study was to assess whether radiological examinations are useful in globus diagnostics, and whether globus patients with normal ENT status develop a malignancy during a follow-up.

Methods We reviewed medical records of all 76 globus patients referred to Helsinki University Hospital, Department of Otorhinolaryngology-Head and Neck Surgery in 2009. Patient history and findings in physical and possible radiological examinations were registered. Patients with dysphagia or pain were excluded. Data from the Finnish Cancer Registry revealed whether globus patients developed malignancies within a 3-year follow-up.

Results Based on medical records, neck ultrasound was performed for 37 (49 %) and videofluorography for 22 patients (29 %). Four patients (13 %) underwent both examinations. One patient had a palpable goiter and neck ultrasound confirmed the diagnosis, other ultrasounds were normal. In videofluorography, all the results were within normal limits and investigations were not useful in diagnostics. The Finnish Cancer Registry data confirmed that globus patients developed no head and neck malignancies during a 3-year follow-up.

Conclusions Neck ultrasound and videofluorography showed no additional benefit to evaluate the globus etiology in patients whose ENT status was normal. Moreover, no globus patients developed malignancies during a 3-year follow-up. This study concludes that a clinical ENT examination is sufficient for patients with typical globus.

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FREE PAPERS (RESEARCH FORUMS)

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R006 Language Disorders in children with ADHD

Dr. Wael Al-dakrouy^{1,2}

¹Psych Care Clinics, Saudi Arabia, ²Queen Margaret University, Edinburgh, United Kingdom

Attention Deficit Hyperactivity Disorder (ADHD) refers to the presence of pronounced difficulties in the areas of inattention, distractibility and hyperactivity that lead to significant impairment in academic and social functioning (American Psychiatric Association, 2013).

The prevalence estimate of ADHD is as wide as 3%-10% for school age children (Weyandt, 2007 & Brown, 2009) and it is identified as one of the most commonly diagnosed clinical conditions affecting the student population (Willcutt, 2012). Two-thirds of children with ADHD have an additional coexisting disorder (Barkley, 2006) and more than one-third have at least three comorbid conditions (Barkley, 2010).

Estimates of the overlap between speech and language disorders and ADHD vary from as low as 8% to as high as 90%, depending on the source and type of sample (Brown, 2009). I will discuss the possible and levels of association between ADHD and speech and language disorders. Also, I will describe the link between the ADHD diagnosis and speech and language disorders in children, supported by evidence from several studies.

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R011 Carcinologic Handicap Index: disability self-assessment questionnaire for head and neck cancer patients

Mathieu Balaguer-Navarro¹, Josiane Percodani¹, Virginie Woisard¹

¹Unité de la voix et de la déglutition, service d'ORL et de chirurgie cervicofaciale, hôpital Larrey, CHU de Toulouse, Toulouse, France

This prospective study aims to draw up and validate a self-assessment questionnaire for disability after head and neck cancer treatment.

Methodology: The Carcinologic Handicap Index (CHI) was designed empirically, based on the "Voice Handicap Index". It comprises nine dimensions, self-assessed by patient: pain, swallowing, feeding, respiration, phonation, hearing, vision, olfaction-gustation and psychosocial. For each, 4 items are scored in terms of frequency, providing dimension and global scores. The CHI was tested on 86 head and neck cancer patients (male predominance, mean age 59 years old), and 18 controls for validation.

Results and discussion: Global internal coherence is 0.905 (Cronbach's alpha), content validity (r , questionnaire scores vs corresponding visual analog scales) ranged between 0.6 and 0.8, except for vision and global score ($r \leq 0.5$: the pathology did not directly impair vision, and was only one factor among others affecting general health status). Temporal validity was correct ($r > 0.7$; $p < 0.0001$) except on the respiration dimension ($r = 0.624$, probably due to fluctuation in pulmonary congestion). Impact on swallowing, feeding and respiration varied with lesion site. There were no significant differences between patients and controls on the pain, hearing and vision dimensions.

Conclusion: the CHI showed acceptable psychometric qualities and can be considered as a clinical tool for health professionals. It assesses the impact of head and neck pathology on quality of life, mainly in the functional domains directly affected by the pathology or its treatment.

NOTES**R019 Voice of teachers**

PhD Viktoria Shilenkova¹, MD Varvara Pevtsova

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The purpose was to study the influence of work profile and length and volume of voice load on the voice acoustic parameters in teachers.

Objective of the study, methods. 45 women (15 kindergarten teachers, 15 public school's teachers, 15 university professors) were examined by acoustic analysis and voice strain test (VST). Then they have been subjected by neuromuscular electro-phonatoric stimulation (NMEPS) of the larynx with VocaSTIM.

Results. School's teachers showed higher rates of MPT, Fmax, Fdelta, SPLdelta and some parameters of VST. Significant differences in the average voice intensity was absent. We found a clear dependence of some acoustic parameters (MPT, Fmax, Fdelta, SPLmax, SPLdelta) and all VST parameters from the type of profession. However, correlation of parameters with daily voice workloads and work experience is not established. We didn't find any significant dynamics of acoustic parameters after NMEPS with the exception of SPLmax, Fdelta, VST. The average voice intensity increased by 4 dB. VST parameter "bellow" decreased by an average of 12%. After 2 months, all voice parameters remained stable despite the daily voice load.

Conclusions. Kindergarten teachers demonstrated much lower acoustic parameters, worse cope with voice load than school's teachers and teachers of universities. Such indicators are most likely due to increased voice load, partial work on the street and emotional overload when working with young children. NMEPS may be one of the methods that is able to ensure the preservation of the stability of the teacher voice to numerous adverse effects, inevitably accompanied by his professional activity.

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R020 Linguo-studio as a form of teaching children-bilinguals and their parents

¹Olga Tverskaya

¹PSHPU, Perm, Россия

The Russian Federation is one of the most active participants of migration processes in the world. High migration is typical for Perm krai, over 185,000 foreign citizens have been registered for 2 years.

Most migrants have poor knowledge of the state Russian language, and many of children-migrants don't know it at all. Besides, migrants do not have enough for socialization knowledge concerning the fundamentals of the Russian legislation, culture and history, traditions and standards of behavior in everyday life. This circumstance requires revision and specification of measures implemented in Perm krai on linguistic and social adaptation of migrants and their children by means of education and inclusion of educational institutions into this activity, creation of migration support services in educational organizations.

Therefore, the purpose of the research is development of a linguo-studio programme on the basis of pre-school educational organization whose specialists will effectively solve the problems of linguistic and social integration of children- migrants involving their parents in the lessons. Linguistic studio program includes teaching colloquial Russian studying basic vocabulary topics, communicative situations to practise the skills of social interaction with native speakers. 20 children and 38 adults took part in training. It lasted 10 months and was organized in the form of joint activities of a child with parents and a specialist.

The results received during the research can be useful in developing new directions of educational and social policy in the context of migrants inflow increase, preventing secondary speech impairments, both children-migrants oral and written speech.

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R021 Development, Standardization, and Application of Luttas Computer Based Arabic Language Skills Test

Assistant Professor Safinaz Azab¹, Professor Khalid El Nagar², Mr. Mahmoud Othman³

¹Faculty Of Medicine Beni-suef University, Egypt, ²Faculty of Education, Cairo University., Egypt, ³Luttas Scientific and Rehabilitating Institution., Egypt

Background: Language is defined as an arbitrary symbolic system that pairs sound and signs to meaning. Standardized tests allow a meaningful comparison of performance among children. Children and young adults over the world have been tested and trained with computerized programs. The outcome of these programs was confirmed by neurological studies . Unfortunately there was no testing or training program made for Arabic speaking children. So an Arabic Program for testing and training directed towards children in Arabic world is of great importance.

Subjects and Methods: Development, standardization and application of Luttas computerized Arabic Language Skills test is used to evaluate the language of young children at the age range from two years to eight years, and to determine if the language is normally developed or delayed. 515 children from Upper and Lower Egypt participated in the standardization of the test and the related reliability and validity studies. The pilot study is performed on 515 normal children. The sample of pilot study included children of average mentality, average physical health with normal language development (subjectively). This sample was taken to check the pattern of presentation of the test items themselves, and their order of presentation.

Conclusion: It can be concluded that Luttas computerized Arabic Language Skills Test is an objective tool, with high reliability and validity in evaluating Arabic language speaking children and it can be used as an effective tool for follow up of the intervention program. The test was proved to be strongly valid and reliable.

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R025 Touch It! Tactile Symbols for Students with Developmental Disabilities and Visual Impairments

Laura Stone², Gerald Abner¹, **Judith Page¹**, Lou-Ann Land¹, Jane Kleinert¹, Jacqui Kearns¹

¹University of Kentucky, Lexington, United States, ²Scott County Schools, Georgetown, United States

This session, developed by a team with extensive expertise in communication disorders, visual impairments, assistive technology, and special education, will describe strategies to integrate the concepts of core vocabulary with tangible symbol systems to facilitate oral and written communication development in students with developmental disabilities and visual impairments. The presenters will demonstrate strategies for designing a set of tangible symbols useful for representing core vocabulary in a school setting using the symbol format developed by the American Printing House for the Blind. The session will begin with a discussion of the types of visual impairments, their prevalence in students with complex communication needs, and their potential impacts on language, literacy, and cognitive development. Presenters will then review the concepts of core and fringe vocabulary, discuss the role of core and fringe vocabulary in language development for students with VI, provide an overview of available tactile symbol systems and strategies for developing novel symbols, and then review case studies where these symbols have been used to facilitate language development and use with AAC.

Learning Objectives:

1. discuss frequency and impacts of visual impairment on development of language and cognition in students with complex communication needs
2. differentiate between core and fringe vocabulary and discuss their use in AAC intervention for students with complex communication needs
3. describe strategies for using and creating tactile symbols

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R027 Multilingual assessment of language impairment: searching for markers for specific language impairment

Brigitte Eisenwort¹, Anna Felnhofer¹, Claudia Klier¹

¹Department of Pediatrics and adolescent medicine, Medical University of Vienna, Vienna, Austria

Background

Children with migration background often produce language forms resembling those of children with specific language impairment, SLI (Armon-Lotem & De Jong 2015). This results in a diagnostic dilemma, because children who due to different circumstances have problems learning their L2 have to be distinguished from children suffering from SLI.

Objectives and method

In our presentation, multilingual assessment of language impairment will be outlined. In the day unit of Pediatric Psychosomatics a specialized linguistic consultation service for multilingual populations with language impairment is offered. Medical students who are native speakers in the patient's mother tongue support the clinical linguist in assessing the competence on the linguistic levels phonetics and phonology, morphology and grammar, active and passive vocabulary and narrative ability. Here, a non word repetition task is considered to have an advantage over other assessment tasks, because the child is asked to repeat items that it has not heard or learned before.

Two studies on the assessment of language development and non word repetition in two groups of children with either a Russian or English speaking migration background are planned in Vienna and preliminary results will be presented.

Conclusion

It is important to assess language competence in mother tongue for all children facing severe problems in learning L2.

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R030 SPI in assessment of stuttering severity and chronicity among Arabic speaking children

Reham Ahmed¹

¹Lecturer of Phoniatics in Ain Shams University, Egypt

Objectives:

This study aimed to standardize an objective Arabic tool for measurement stuttering severity and prediction of its chronicity among Arabic speaking normal dysfluency children. SPI was changed into Arabic form & materials were prepared and changed to suit Arabic society.

Subjects and Method:

This test was conducted on two groups: first group consists of (100) stuttering children (control group), Age ranged from 3 to 8years. Second group consists of (100) children who have normal non-fluency, age ranged from 3 to 8years, were randomly chosen for the standardization procedure. The SSI Arabic test, and SPI Arabic test were applied, during which the patients speech was audio-recorded, to facilitate judging the duration of the moments of stuttering. A follow up was done by SPI on normal dysfluency group every 6ms for 18ms to get a cutoff point between recovering and non-recovering children.

Results:

Test reliability was measured by inter rater reliability, while validity was measured by correlation with previous standardized test and internal consistency validity.

Conclusion:

The Arabic form of the S.P.I. (A.S.P.I.) presented in this article is an objective, valid and reliable test that can be used in evaluating the Arabic-speaking children who had dysfluency before and throughout the course of therapy. It was considered the first pioneer test to differentiate the diagnosis between the normal dysfluency children and children who stutter.

NOTES

R031 Jaw-Tongue Neuromechanical Modelling from sEMG activity for Dysarthric Speech Evaluation

MSc Andrés Gómez-Rodellar¹, Professor Agustín Álvarez-Marquina¹, Professor Pedro Gómez-Vilda¹

¹Center for Biomedical Technology, Universidad Politécnica De Madrid, Campus de Montegancedo, Pozuelo de Alarcón, Madrid, Spain

Speech articulation is produced by the coordinate movements of muscles in the larynx, pharynx, mouth and face. Speech shows acoustic features as harmonics and formants which are directly related with neuromotor activity of these muscles. The first two formants are mainly related with jaw and tongue neuromotor actions. Speech is a ubiquitous signal, easy to record and process, either locally or on e-Health platforms, its use may open a wide set of applications in the functional grading and monitoring of neurodegenerative diseases.

A relevant question is how far speech correlates and neuromotor actions are related. In this preliminar study it is intended to find answers by using surface electromyographic recordings (sEMG) on the masseter and the acoustic kinematics related with the first formant. It is shown that relevant correlations can be found among the sEMG activity (dynamic muscle behavior) and the positions and first derivatives of the first formant (kinematic variables related to vertical velocity and acceleration of the joint jaw and tongue biomechanical system). It is shown that the probability density function associated to these kinematic variables is more sensitive to speech disorders than classical features as Vowel Space Area (VSA) or Formant Centralization Ratio (FCR) in characterizing neuromotor degeneration in Parkinson's Disease.

NOTES

R032 Estimating Neuromotor Degeneration from Voice and Speech Correlates

Professor Pedro Gómez Vilda¹, Dr. Jiri Mekyska², MSc Andrés Gómez-Rodellar¹, Dr. Daniel Palacios-Alonso³

¹Center for Biomedical Technology, Universidad Politécnica De Madrid, Campus de Montegancedo, Pozuelo de Alarcón, Madrid, Spain, ²Department of Telecommunications, Brno University of Technology, Brno, Czech Republic, ³Escuela Técnica Superior de Ingeniería Informática, Universidad Rey Juan Carlos, Móstoles, Spain

Neurodegenerative pathologies as Parkinson Disease (PD) show important distortions in speech, affecting fluency, prosody, articulation and phonation. Measurements based on articulation gestures altering formant positions, as the Vocal Space Area (VSA) or the Formant Centralization Ratio (FCR) have been proposed to measure speech distortion, but these markers are based mainly in static positions of sustained vowels.

The present study introduces a measurement based on the mutual information distance among probability density functions of kinematic correlates derived from formant dynamics. An absolute kinematic velocity associated to jaw and tongue articulation gestures is estimated and modeled statistically. The distribution of this feature may differentiate PD patients from normative speakers during sustained vowel emission. The study is based on a limited database of 53 male PD patients, contrasted to a very selected and stable set of eight normative speakers. In this sense distances based on Kullback-Leibler Divergence seem to be sensitive to PD articulation instability.

Correlation studies show statistically relevant relationship between information content distances to certain motor and non-motor clinical scores, based on the freezing of gait, or sleep disorders. Remarkably, one of the statistically relevant correlations point out to the time interval since the first diagnose was issued. These results stress the need of defining scoring scales specifically designed for speech-based diagnosis and monitoring methodologies in degenerative diseases of neuromotor origin.

NOTES

R034 Warmed and humidified air and counter pressure in alleviating voice symptoms

Adjunct Professor Kerttu Huttunen^{1,2,3}, Adjunct Professor Leena Rantala⁴

¹PEDEGO Research Unit, University of Oulu, Oulu, Finland, ²MRC Oulu, Oulu, Finland, ³Oulu University Hospital, Oulu, Finland, ⁴Logopedics, University of Tampere, Finland

In many occupations, professional voice users need to speak in challenging environments; outdoors in cold and dry air with often a long speaking distance, and in dry, draughty, dusty, or otherwise poor indoor air. Voice problems are common among, for example, teachers, but there is increasing evidence that respiratory exercises and pressure breathing may help in dysphonia.

This pilot study explored the efficacy of one-month intervention using breathing exercises in women with voice symptoms. Participants were six non-smoking working age women that suffered from poor indoor air at work and experienced voice symptoms, particularly hoarseness. They used 10 minutes a day WelIO₂ – a new commercially available device for respiratory exercises that provides counter pressure during both inhalation and exhalation, and warms and humidifies the breathing air. The data consisted of self-reports on voice symptoms and acoustically (F₀ and AVQIO3.01 Index) and perceptually (GRBAS and VAS scales) analyzed speech samples. Measurements of breathing frequency and pattern, PEF (Peak Expiratory Flow), FVC (Forced Vital Capacity) and FEV1 (Forced Expiratory Volume in one minute) were also obtained.

AVQIO3.01 Index and three of its subcomponents improved significantly, and, according to the perceptual assessment of the blinded speech samples, grade, roughness and strain in voice decreased. However, there was neither decrease in the frequency or grade of self-reported voice symptoms nor improvement in the respiratory measurements as the function of intervention.

Effects of these promising results using WelIO₂ need to be confirmed with a larger number of participants. Such project is currently in progress.

NOTES

R044 Botulinum Toxin injection in Bilateral Vocal Fold Immobility

Dr Reham Abdelwakil Ibrahim Mohamed¹

¹Phoniatrics unit, Otorhinolaryngology Dept., Faculty of Medicine, Assiut University, Assiut, Egypt

Introduction: Bilateral vocal fold immobility can occur from injury to the recurrent laryngeal nerve or trauma to the cricoarytenoid joint. It results in respiratory compromise and increased risk of tracheotomy. Although tracheotomy is highly effective in the control of respiratory distress, it causes tracheal stenosis, infection and leads to an unpleasant cosmetic defect. Surgical procedures (cordotomy, arytenoidectomy, VF lateralization, type II thyroplasty) are advised to reduce the airway failure. They generally affect the voice undesirably and may increase the aspiration risk during swallowing. Botulinum toxin injection into different internal laryngeal muscles has been reported in bilateral VF immobility to prevent aberrant re-innervation and synkinesis to widen the airway and still maintains a serviceable voice.

Objectives: Investigate the effectiveness of chemical denervation of the thyroarytenoid muscle with botulinum toxin injection to diminish dyspnea in patients with bilateral VF immobility by changing the positioning of the paralyzed vocal folds.

Methods: 5 patients with respiratory compromise due to bilateral VF immobility had botulinum toxinA injection bilaterally to the thyroarytenoid muscles. Patients filled in VHI to detect impact of the complaint on their voices pre- and post botulinum toxin injection. Videolaryngostroboscopic examinations as well as changes in the pulmonary function studies pre- and post botulinum toxin injection were reported.

Results: Patients showed symptomatic improvement of the airway compromise, widening of the airway on videolaryngostroboscopic examination and improvement of the pulmonary function studies particularly in the vital capacity and flow volumes.

Conclusion: Botulinum toxin injection in bilateral vocal fold immobility provides temporary relief of the airway compromise resulted from the paralysis.

NOTES

R045 Acoustic characterization of speech intonation in Parkinson's disease

Professor Christopher Watts¹

¹Texas Christian University, Fort Worth, United States

Objective: Prosodic impairment is a salient characteristic of Parkinson's disease (PD). Numerous methods have been used to quantify prosodic intonation, including measurement of the Fo standard deviation (pitch sigma) and Fo range. One weakness of these measurements is that inter-speaker comparisons are influenced by habitual Fo. A measure that is robust to this natural inter-speaker variability is the Fo coefficient of variation (cFov), which normalizes intonation by dividing a speaker's Fo standard deviation by mean Fo across an utterance. Few studies have reported these measures in speakers with PD. The purpose of this investigation was to compare measurements of cFov from two connected speech contexts in speakers with and without PD.

Methods: 20 male speakers with idiopathic PD and 20 older healthy adult male speakers were recorded producing a sentence and reading a text. Measures of cFov were acquired from the entire sample of each speaking condition using the computer program Real Time Pitch. Independent samples t-tests with Bonferroni correction were applied to each data set comparing speakers with PD to controls.

Results: Speakers with PD exhibited significantly less cFov than controls in both speaking conditions (sentence $p = 0.01$; text $p = 0.008$).

Conclusion: Acoustic quantification of intonation using cFov is sensitive to prosodic impairment in PD. The efficient method of acquiring cFov using acoustic analysis supports the use of this measurement for clinical purposes, both as an evaluation tool and as a metric for tracking clinical outcomes.

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R048 The bubble-mask: application of a new SOFT device for vocal warm-up

Franco Fussi¹

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Semi-occluded vocal tract devices are widely used in the fields of voice therapy and didactics, aiming at improving vocal economy and efficiency. The rationale and theoretical underpinnings for SOVTEs have been described by Titze. SOVTEs promote an increase in vocal tract impedance, resulting in changes in the inertive reactance, with favorable effects on voice production because of a reduction of phonation threshold pressure and an increase of skewing of the glottal flow waveform. The increasing vocal tract impedance can affect the glottal function through acoustic-aerodynamic interactions and mechano-acoustic interactions.

The common feature of these devices, and related exercises, is the reduction of the cross-sectional area of the vocal tract at or near the lips. Some of the most known SOVTEs are represented by lip and tongue trills, hummings, hand-over-mouth, resonance tubes, flow resistant straw, and Lax Vox.

Some authors have ventilated a double positive effect from the combination of a continuous and a fluctuating SOVT system, such as the Hand-on-Mouth exercise. We present the actual data to the creation of a new device that combines the two effects: the bubble-mask.

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R050 Vocal mucosal oedema in children

Inna Vorobeveva¹, Victoria Shilenkova, Andrey Zinkin

¹Family Clinic, Krasnodar, Russian Federation

The purpose was to study of the management and results of treatment of localized oedema of the vocal folds in children with chronic dysphonia.

Objective, methods. The study involved 275 children aged 3-11 years with chronic hoarseness.

In 41 (14,9%) of cases, unilateral or bilateral localized oedema of vocal folds was found (28 boys, 13 girls). They underwent a complex examination, which included laryngostroboscopy, acoustic analysis, esophagogastroscope, 24-hours esophageal pH monitoring.

Results. In 13 children (31,7%), the possible cause of vocal folds oedema was gastroesophageal reflux (GER). The criteria for the effectiveness of therapy were the disappearance or reduction of the oedema of the vocal folds and the improvement of the voice acoustic parameters. After proton pump inhibitor therapy, the oedema had decreased in size in 11 children and remained unchanged in 2. In 16 children (39,0%), hyperfunctional dysphonia was diagnosed, which contributed to the development of limited edema in the anterior and middle parts of the vocal folds, which can be considered as the initial stage of nodules. These patients were given voice therapy. The vocal folds oedema disappeared or significantly decreased in 12 cases. The next 12 children (29.3%) had GER and symptoms of hyperfunctional dysphonia. Anti-reflux therapy was used in combination with voice therapy. Reduction of the vocal fold oedema and restoration of voice were achieved in 10 cases.

Conclusions. Local oedema of vocal folds occurred in 14,9% of children with hoarseness and had two main causes: GER and hyperfunctional dysphonia.

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R054 Objective assessment of dysphonia in girls suffered from anorexia nervosa

Barbara Maciejewska¹, Dr n.med. Aleksandra Rajewska-Rager², Dr n.med. Zofia Maciejewska-Szaniec³, mgr Bogna Małaczyńska¹, Dr n.med. Michał Michalak¹, dr hab. Piotr Świdziński¹, dr hab. med. Bożena Woźnica¹

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Background: Chronic undernourishment in the course of anorexia nervosa leads to various metabolic and hormonal changes, which translates to the impaired functioning of the majority of systems and organs. The impact of eating disorders on the condition of the vocal apparatus and the voice has been described in the literature; nevertheless, it concerns mainly bulimia nervosa.

Objectives: a voice acoustic analysis in adolescent girls diagnosed with anorexia nervosa.

Material and methods: 42 girls with anorexia and 31 girls - control group, aged 12-19 years, were assessed for the condition of the voice, using the perceptual assessment of voice according to GRBAS scale, videolarynostroboscopy, acoustic assessment of voice (MDVP - Multi Dimensional Voice Program).

Results: The perceptual assessment of voice using the GRBAS scale revealed changes in anorectic girls' voice - mainly breathy and asthenic in nature. The maximal phonation time was significantly shorter in anorectic group compared to control one (A vs K : 15.40s vs 23.19s).

The decrease of fundamenyal frequency FO and f the voice range were observed in anorectic girls (231.08 vs 247.30).

In the objective acoustic analysis of laryngeal tone MDVP among parameters with good-voice identification, parameters identifying shifting of frequency (Jitt, RAP, PPQ, sPPQ, vFo) have been differentiated according to the norm. There were no changes in amplitude signal.

Conclusions: These results might indicate that anorexia nervosa could have led to the functional changes of the larynx. Such disturbances may be explained by the hormonal dysfunctions as well as starvation.

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R055 Can Cochlear Implantation Improve Voice Quality In Arabic Speaking Children?

Assistant Professor Safinaz Azab¹, Professor Rabee El Sabeela¹

¹King Abd-el Aziz Specialized Hospital / Jouf, Saudi Arabia

Objective: After cochlear implantation, auditory control of voice production is possible and quality of voice is improved. Aim of study was to investigate changes in some of voice parameters in deaf children after cochlear implantation and the influence of implantation age factor. Methods: Thirty prelingually deafened children implanted unilaterally at the age of 2.5—6 years were included. For all of children an acoustic analysis of Arabic vowel/æ/ was performed before cochlear implantation 6, and 12 months after the implantation. Fundamental frequency (FO), jitter, shimmer and noise-to-harmonic ratio (NHR) were compared before and after implantation.

Results: After cochlear implantation fundamental frequency did not change significantly. However, an improvement was noticed in measurements of jitter ($p = 0.006$), shimmer ($p = 0.021$) as early as 6 months and noise-to-harmonic ratio ($p = 0.010$) 12 months after the implantation. Children implanted before or at age of 4 years showed significant improvement in jitter and shimmer at 6 months and noise-to harmonic ratio 12 months after implantation. Children implanted after age of 4 years significant changes was detected in FO and Shimmer 12 months after implantation. Conclusion: Cochlear implantation enables auditory moment-to-moment control of pitch and loudness. Determination of jitter and shimmer in Arabic vowel/æ/ sample proved to be a good and early indicator of improved phonation control, even in young children. Deaf children who were implanted before age of 4 years improved their voice quality and control more quickly and to a greater extent than children implanted after the age of 4 years.

NOTES

R063 Long-term follow-ups of Persian ADSD Patients - Studying QOL and Voice changes

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Introduction: Adductor spasmodic dysphonia (ADSD) is one of the most disabling voice disorders with no permanent cure. Patients with ADSD suffer from poor voice quality with repeated stoppage of phonation so they experience many limitations in daily and work activities. Botox (BT) injection considered as a gold standard treatment for ADSD and reduced amount of voice stoppages and improve voice quality for a limited period of time. In this study patients with ADSD were followed after BT injection to track the changes in QOL and perceptual voice quality.

Method: this is a longitudinal study of 13 patients with ADSD. Patients were evaluated pre-injection, 1, 3, and 6-months post-injection. At each time they filled in Voice Activity and Participation Profile-Persian Version (VAPPP). They read a passage and their voices recorded. Perceptual assessment done by 3 expert voice pathologists using GRBAS. The data were analyzed by using Friedman, Wilcoxon, and McNemar test at significance level of $p < 0.05$.

Results: Total VAPPP and domains' best scores achieved at 3 months post-injection. At 6-months post-injection the VAPPP scores increased significantly in comparison with 3-months but stayed lower than pre-injection. GRBAS results also indicated that patients' voice at 1 and 3-months post-injection were significantly less severe in terms of strain and roughness ($p = 0.01$; $p < 0.001$).

Conclusion: BT injection caused patients' QOL improve and help them speak more comfortable with less negative emotions. The voice quality also improved but not considered normal. The effects of BT injection seemed to continue even after BT resolved.

NOTES

R068 Reliability and validity of the new instrument for assessment of speech sound production in Persian speaking children

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Speech and language pathologists should include connected speech assessment as a part of their evaluation for children with speech sound disorders. The purpose of this study was to design and validation of a story for assessment of speech sound production for Persian children.

Method: 261 typically developing children aged 48-60 months recruited in this study. First, two stories that included all consonants and vowels in, more than one position for each of them, were designed and asked the expert panel to review them and select one of them for assessment. The ability of the test for discriminate between two age groups (48-54 months and 55-60 months) and discriminate between mean scores of boys and girls was investigated for construct validity. Test-retest was performed by two-week interval on 15 children which randomly selected from sample. inter-rater reliability was evaluated by the correlation between scores of two examiners that transcribed and scored speech sample of 15 children.

Results: There was 80% or more than 80% Agreement in experts' response regarding content validity. All the children could repeat all of the sentences easily after examiner. Both of the reliability values (test-retest and inter-rater reliability) were higher than 0.85 ($p < 0.001$). There wasn't any significant difference between boys and girls ($p = 0.77$), but significant difference between two age groups ($p < 0.001$).

Conclusion: It seems The Persian story for assessment of speech sound production is a reliable and valid measure that can be used to assess the speech sound production abilities.

NOTES

R079 Laryngeal Findings after Prolonged Endotracheal Intubation in adult patients

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Background: Prolonged endotracheal intubation (more than 24 hours) is needed in critically ill patients after respiratory failure. Prolonged intubation usually associated with different laryngeal injuries as vocal fold immobility, ulceration, granulomas and edema.

Objectives: To determine the effects of prolonged endotracheal intubation on the larynx & to identify the types of laryngeal involvement

Patients & Methods This study conducted on 52 patients with endotracheal intubation admitted to Adult Intensive care unit (AICU). When the Patients were eligible for endotracheal extubation (the decision was taken by the AICU consultants). The patients evaluated immediately after extubation or within 24 hours. The patients evaluated by flexible Fibroptic-naso-laryngoscope with endoscopic video-recording during examination. We examined the larynx during quite respiration for mobility of the vocal folds and the presence of vocal fold lesions. Also, some patients were assessed for swallowing ability.

Results: 11 patients presented by left Vocal Fold (VF) immobility. 5 patients presented by right VF immobility. 3 patients with Bilateral VF immobility. 12 patients by posterior glottis laceration & ulceration. Subglottic rim and stenosis were found in 6 patients. Arytenoid & subglottic edema in 12 patients. Supraglottic edema in 7 patients. Laryngeal sensations decreased in 15 patients. No. of patients assessed for swallowing was 24 of which Aspiration was found in 12 patients.

Conclusion: Prolonged laryngeal intubation is associated with different laryngeal injuries. High Risk of aspiration was observed after prolonged laryngeal intubation.

Key words: Prolonged intubation, Vocal Fold lesions, Laryngeal aspiration

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R080 A New Treatment Method for Puberphonia: DoctorVox Therapy with High Backpressure

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Object: Puberphonia (mutational falsetto) is a functional problem beyond pubertal period which is seen mostly in males. Treatment of puberphonia has been reported to be done by applying manual pressure externally; by exercises for lowering vertical laryngeal position or by surgery. A new method is presented by Denizoglu et al. using high backpressure in DoctorVox Therapy (DVT) which is developed by the author based on Sihvo's LaxVox Method.

Methods: 21 male with puberphonia and 25 age-matched healthy male were included in the study. ENT examination, videolaryngostroboscopy, acoustic and electroglottographic analysis, and perceptual voice evaluation were performed at pretreatment, first and sixth months of treatment. DVT was applied with high backpressure (over 20 cmH₂O) and no other methods were used. After skill acquisition, therapy was completed by transferring the new skill into a behavior.

Results and Conclusions: All patients were able to find their chest register in the first two sessions and use their chest register in a normal habitual speaking tone and timbre after two weeks of therapy. All patients showed a statistically significant decrease in VHI-10, GRB, F0, F1, F2, F3, %Jitt, %Shimm, NHR and CI whereas an increase in CQ after treatment (first month). At the 6th month post-treatment, no patient got back to falsetto register; despite VHI-10, %jitt ve NHR values were higher than of control. DVT with high backpressure was shown to be an effective treatment for puberphonia.

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R083 Semi Obstructive Vocal Tract Exercises: A Multidimensional Approach

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Semi obstructive vocal tract exercises (SOVT) are well known in singing pedagogy for centuries. They have been used to improve ergonomic output by the singer and to produce safe and efficient voice, especially for artistic interpretation. Not only for developing sportive means, but also for care and cure of professional voice may be possible by applying SOVT exercises. SOVT exercises are also therapy of choice for voice disorders.

SOVT exercises may be applied with or without devices.

Types of backpressure during SOVT exercises may be classified according to temporal and spatial characteristics of physical effect, or they can be classified according to the duration and amplitude of impact of the backpressure. Regarding the electrical currents (Direct Current- DC, Alternant Current-AC) if there is a constant backpressure, we can call it DC-SOVT and it can be applied in two levels of backpressure. Narrow drinking straws, hand over mouth exercise and voiced fricative consonants provide a high constant (DC) backpressure whereas nasal consonants and semivowels provide a low backpressure on the system. If the backpressure impact is very fast and short, we can speak about transitory backpressure with voiced stop consonants such as [b], [g], [d]. In alternating backpressure current, the accessory system works in an oscillatory fashion as in so-called trills. The last SOVT type combines back pressure application with artificial elongation of vocal tract with free articulation: phonating into tubes one end in water.

NOTES

R087 Modelling study of the physical background for voice therapy with tubes

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Phonation into a tube with the distal end in air or submerged in water (water resistance therapy) is used for voice therapy. This study explores the effective mechanisms of tube therapy using a computer model and a physical model consisting of silicone vocal folds and a plexiglas vocal tract.

First formant frequency F1 decreased by 71% and F2 by 19% for phonation into a glass resonance tube (length 27 cm, inner diameter 7.8 mm) with the distal end in air, compared to the production of [u:]. F1 descended slightly above F0. For the tube in water, F1 decreased by 92%, reaching ca 28 Hz where the water bubbling frequency (19–24 Hz) was just below F1. The bubbling frequency occurs close to the acoustic-mechanical resonance of the vocal tract. This resonance helps F1 to descend lower –close to F0 in speech, which can further enhance the water voice therapy effect. Loops of subglottic pressure versus glottal area variation in time clearly differentiate vowel phonation from both therapy methods.

In both therapy methods, part of the airflow energy required for phonation is substituted by the acoustic energy utilizing the first acoustic resonance. Thus, less flow energy is needed for vibration of the vocal folds, which means improved vocal economy. The effect can be stronger in water resistance therapy if the water bubbling frequency nears the acoustic-mechanical resonance of the vocal tract and simultaneously the fundamental frequency approaches the first formant frequency.

NOTES

R088 Dysphonia Severity Index and Acoustic Voice Quality Index measures differentiating normal/dysphonic voices

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Objective of the study was to investigate and compare the feasibility and robustness of the Acoustic Voice Quality Index (AVQI) and the Dysphonia Severity Index (DSI) in diagnostic accuracy, differentiating normal and dysphonic voices.

Methods. Voice recordings of 264 subjects with normal voices (n = 105) and with various voice disorders (n = 159) including standard text and sustained vowel /a/ were perceptually rated for dysphonia severity using Grade (G) and the overall dysphonia severity with a visual analog scale (VAS) by five voice clinicians. All concatenated voice samples were acoustically analyzed to receive an AVQI score. For DSI analysis, the required voice parameters were obtained from the sustained vowel /a/.

Results achieved significant and marked concurrent validity between both auditory-perceptual judgment procedures and both acoustic voice measures. The DSI threshold of 3.30 pertaining to Gmean obtained reasonable sensitivity of 85.8% and specificity of 83.4%. For VASmean, the DSI threshold of 3.30 was determined also with sensitivity of 70.3% and specificity of 93.9%. The AVQI threshold of 3.31 pertaining to Gmean demonstrated sensitivity of 78.1% and specificity of 92.0%. For VASmean, an AVQI threshold of 3.33 was determined with sensitivity of 97.0% and specificity of 81.8%.

Conclusions. The outcomes of the present study indicate comparable results between DSI and AVQI with a high level of validity to discriminate between normal and dysphonic voices. However, a higher level of accuracy was yielded for AVQI as a correlate of auditory perceptual judgment suggesting a reliable voice screening potential of AVQI.

NOTES

R089 Spectral acoustic measures improve with increasing vocal intensity

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Objective: Spectrum based acoustic measures such as smoothed cepstral peak prominence (CPPS) and spectral slope have been associated with laryngeal pathology and perceptual voice quality. Recent work has shown that harmonics-to-noise-ratio (HNR) increases with elevated voice sound pressure level (SPL) in healthy and pathologic voices. This study investigates SPL effects on CPPS and spectral slope in women with and without voice disorders.

Methods: In a retrospective matched case-control study, 59 female voice patients 18–61 years of age (mean 27, SD 12.4) were paired with 59 vocally healthy women according to approximate age and occupation. Diagnoses included nodules (66%, n=39), polyps (9%, n=5), and muscle tension dysphonia (MTD, 25%, n=15). Voice SPL, CPPS and spectral slope were computed from sustained vowel phonations with /a/ at “soft”, “comfortable”, and “loud” conditions using Praat. The effects of loudness condition (soft/comfortable/loud) and measured voice SPL (dB SPL) were examined with linear mixed models. Diagnosis (healthy/pathological), differential diagnosis (nodules/polyps/MTD) and treatment effects (before/after treatment) were determined with Wilcoxon signed-rank tests.

Results: Increased loudness was associated with higher values of CPPS ($R_2=0.64$) and less negative (less steep) spectral slope ($R_2=0.48$; $p<0.001$) in both healthy and patient groups. Diagnosis, differential diagnosis and treatment had no significant effects on CPPS or spectral slope.

Conclusions: In women with and without voice disorders, higher loudness levels were associated with increased CPPS and less steep spectral slope. Future studies could investigate how vocal intensity effects should be controlled for to improve the clinical value of acoustic spectral and cepstral measures.

NOTES

R093 Cognitive language learning mechanisms in bilingual and monolingual children with and without developmental language disorder

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Objectives: Determining if children from diverse language backgrounds meet criteria for developmental language disorder (DLD, also known as specific language impairment) is a challenge. Bilingual children often have different levels of proficiency in their languages due to exposure factors, which can result in over-identification of DLD. We conducted three studies to address this obstacle by examining whether we could identify nonverbal cognitive variables that are closely related to DLD status, but that are unaffected by bilingual status. To this end, we compared monolingual and bilingual children with and without DLD on three cognitive tasks.

Methods: Four groups of English speaking children (ages 8-12), typically developing children (TD, 35 monolinguals, 24 bilinguals with varying home languages) and children with DLD (17 monolinguals, 10 bilinguals), participated. Children completed visual tasks measuring procedural memory, attention networks and choice reaction time.

Results: Interactions between bilingual status and language disorder emerged for choice reaction time. However, differences between the DLD and TD groups were observed for procedural learning and performance on aspects of attention, but performance on these tasks was equivalent in monolinguals and bilinguals.

Conclusions: Choice reaction time is defined by both bilingual experience as well as language disorder. Critically, procedural memory, and contrary to some prior research, aspects of attention appear to be child-intrinsic language learning mechanisms that are minimally shaped by bilingual environment. Future diagnostic accuracy studies should confirm if these mechanisms can be used to identify risk of DLD in children who come from diverse language backgrounds.

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R096 Size does matter. First experiences in laryngological cases with a small 2.4 mm endotracheal tube

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Objective: Testing feasibility of using a 2.4 mm ID Tritube® tube with cuff for fully controlled ventilation in laryngological and phonosurgical cases.

Method: 11 adult patient undergoing a laryngological procedure were intubated with the Tritube in the Netherlands. In the first 3 cases patients were also intubated with an MLT tube to note the difference in view and working space. Primary outcome measures were safety of ventilation, field of view of working space for phonosurgical intervention in the intubated airway.

Results: In one of the first cases, following a recent upper respiratory infection, the thin tube became blocked by thick secretions and instead of using the option of flushing the tube with saline, the anaesthesiologist decided to re-intubate with an MLT-tube. The ventilation was at no moment jeopardised. The other 10 cases were ventilated without any problem. In all cases the view of the larynx was remarkably good and in the three cases undergoing both types of intubation the view and working space with the Tribute was significantly better than with an MLT tube.

Conclusion: The 2.4 mm ID Tribute provides an unprecedented view of the intubated larynx without loss of ventilatory control.

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R097 Adipose-derived stromal vascular fraction in scarred vocal folds: first results of a phase I/II trial

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Scarred vocal folds (VF) can be congenital or acquired, with a considerable impact on the quality of life. Their treatment is still an unresolved chapter in laryngology. Adipose-derived stromal vascular fraction (ADSVF) is recognized as an easily accessible source of regenerative cells with therapeutic potential in various diseases.

Objective: To measure for the first time the safety, tolerability and potential efficacy of autologous ADSVF local injections in patients with scarred VF.

Methods: We did an open-label, single arm, at one study site with a 12-month follow-up among 8 patients with disabling scarred VF, refractory to conventional treatments. Lesions involved the middle third of the VF, for at least 12 months and with a Voice Handicap Index > 60/120. Autologous SVF was obtained from lipoaspirates, using an automated processing system. Primary outcome was the number and the severity of adverse events. Secondary endpoints were changes in videostroboscopy, voice recordings (perception, acoustic, aerodynamic data) and quality of life, 1, 6 and 12 months after treatment.

Results: Seven women and one man, aged from 25 to 59 years, have been included. No severe adverse events occurred. Some minor adverse events were reported and resolved spontaneously. An improvement in VF vibration, quality of life and perceptive evaluation was noticed in 6 patients. Changes in objective parameters were variable from one patient to another.

Conclusion: This study outlines the safety of the autologous ADSVF injection in scarred VF. Preliminary assessments suggest potential efficacy needing confirmation in a randomized placebo-controlled trial on a larger population.

NOTES

R101 The band-aid-fixed bone conduction hearing aid ADHEAR – useful for children with conductive hearing loss

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Conventional bone conduction hearing aids for children bear several disadvantages: headband-integrated systems are frequently not well accepted due to pressure on the head, sweating, or cosmetic stigma. Also, the mechanical conduction loss is higher as for per- or transcutaneous systems. The bone conduction hearing aid ADHEAR seems to overcome a part of these disadvantages by clipping an audio processor on a band-aid fixed behind the ear.

A clinical study* evaluates the audiometric benefit, the usage and the patients' and parents' satisfaction of 10 children aged 0.5-10 years with a permanent conductive hearing loss using a band-aid-fixed ADHEAR system compared with a headband-integrated bone conduction hearing aid. Aided and unaided pure tone/behavioral observational audiometry and speech audiometry both in quiet and noise are assessed initially of both hearing devices and after 8 weeks of ADHEAR use and questionnaires are administered to the parents and children.

So far, 7 children are included in the study. They show a comparable, tendentially better audiometric outcome using the ADHEAR systems compared with head-band-integrated hearing aids. All parents evaluated the ADHEAR as useful or very useful device for their child. For children <2 years of age, adherence problems of the band-aid may occur. Allergic skin reactions occurred in two cases. The other five children continue using the ADHEAR.

The ADHEAR system seems to be an excellent technical solution for children with conductive hearing loss or chronical draining ears, given shortcomings regarding the adherence of the band-aid and allergic skin reactions can be overcome.

*Supported by MED-EL

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R103 Oral placement therapy: The importance of the Jaw function in feeding and speech**Doctor Rehab Zaytoun¹**¹*Faculty of Medicine, Cairo University, Cairo, Egypt*

Muscle-based feeding and speech disorders (Disorders that happen as part of cerebral palsy, Down Syndrome, apraxia of speech, post CVA patients...etc.) have been always a challenge for the professionals. These patients have seldom improved using the traditional visually and auditory-based speech and language therapy.

Oral placement therapy is a complementary approach -for the traditional approaches- addressing structural placement in clients with movement or placement disorders.

It is an approach that targets the following: Increasing the awareness of the oral mechanism on the somatosensory and metalinguistic levels, normalizing the tactile oral sensitivity, improving the differentiation of oral movements which will reflect on the feeding and the speech intelligibility. The function of the jaw musculature in feeding and speech has always been identified. However, we lack the information on how to assess or improve the jaw function. Oral placement therapy focuses on building the strength and the stability of the jaw in order to achieve the optimum dissociation, grading, and endurance.

NOTES**R107 Eating disorders of early childhood (EDEC): oral motor versus sensory aversions****Doctor Samia Bassiouny¹**¹*Otorhinolaryngology Dept., Phoniatric Unit, Ain Shams University, Cairo, Egypt*

There are several causes of feeding and swallowing disorders in early childhood. While in organic causes the management is directed to the cause, the real challenge is dealing with EDEC, where there is no apparent organic cause, but rather a wide variety of symptoms, leading to pickiness, growth faltering, nutritional deficiencies, & a disturbed pattern of family interaction.

Eating disorders of early childhood are synonymously used with: functional dysphagia, benign picky eating, tactile defensiveness, sensory food aversion, food avoidance emotional disorder, and toddler anorexia. Picky eating is an eating disorder that starts in early childhood, child demonstrates one or more of these pillars: Loss of interest in food, neophobia, & strong food preferences limiting quantity or variety of food intake. In this talk the pertinent signs or symptoms are going to be presented. Diagnostic evaluation and management alternatives will be discussed.

NOTES

R111 Anatomical based FEES residue rating scale

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Objectives: The aim of this study was to design a reliable, anatomically based scale for judging the severity of post-swallow residue in the pharyngeal cavities, for use during Fiberoptic Endoscopic Evaluations of Swallowing (FEES) in patients with dysphagia.

Materials and Methods: Two 7-point ordinal residue severity rating scales were developed by expert FEES examiners with more than five years' experience performing FEES tests; one scale for the vallecular residue and the other one for the pyriform sinus residue. Hard copy color images from 200 FEES videos were selected by the examiners (N=118 frames; 56vallecular, 62pyriform sinus). Half of these images were then used to train three raters in scale judgment rules. The remaining half of the images were randomly ordered and rated by the three raters. Two weeks later each rater re-analyzed the same images with a randomized order of presentation. Intra-rater test-retest reliability and inter-rater reliability were determined using the kappa Intra-class Correlation Coefficient.

Results: Residue ratings were excellent for intra-rater reliability for pyriform sinus (kappa=0.81&0.82, respectively for 2nd & 3rd raters) and for vallecula (kappa =0.72 &0.87, respectively for 2nd & 3rd raters), very good to good for inter-rater reliability for vallecula between 1st & 2nd raters (kappa = 0.73) and between 1st & 3rd raters (kappa=0.685) and pyriform sinus between 1st & 2nd raters (kappa=0.68) and between 1st & 3rd raters (kappa=0.72).

Conclusion: This anatomical based FEES pharyngeal residue severity rating scale is a reliable image-based tool to provide an accurate pharyngeal residue severity for diagnostic and therapeutic purposes.

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R114 The current situation and future of Vocal Arts Medicine in China

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Vocal Arts Medicine is an independent interdisciplinary from cross and mix of Vocal Music and Voice Medicine. It not only contributes to selection of the best vocal performers, effective vocal training and correct identification of voice types, but also plays an exclusive role in preventing vocal injuries during performance or public speaking, maintenance of vocal health and treatment of voice disorders. It can also prolong the careers of singers and public speakers.

This paper explains the development status of the Vocal Arts Medicine in China from six aspects and offers seven suggestions on how to better develop this study in future.

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R116 Visual feedback in voice rehabilitation for professional singers

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Objectives: Computer-assisted tools for voice training, providing real-time visual feedback of specific characteristics of the voice, complement for many years traditional training methods. However, this method is not very popular in voice rehabilitation. The purpose of this study is to evaluate the effectiveness and efficiency of real-time visual feedback in voice rehabilitation of singers and to compare this specific technique with classical voice therapy.

Study design: This is a prospective, randomized study.

Methods: Twenty professional singers with vocal complains were enrolled in the study. Half of them underwent voice therapy combined with visual feedback and another group only voice therapy. Effects of rehabilitation were assessed with videolaryngostroboscopy, singing voice assessment, voice handicap index, acoustic analysis and maximum phonation time.

Results: Both groups showed an improvement in voice quality but after combined voice therapy with visual feedback it was noticed a great improvement in perceptual assessment, capacity of sustained pitch, accuracy of the pitch and singing voice range. We observed also a significant improvement in projection of the voice and in values of singers' formant.

Conclusion: Combined voice therapy with visual feedback proved to be an efficacious treatment method in singers with voice problems. The results of the study also indicate that the development of new methods for singer vocal rehabilitation may be useful to these singers.

NOTES

R119 Laryngeal and pharyngeal movements during inner singing

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A laryngeal and pharyngeal activity during inner singing – the involuntary movements of the larynx and pharynx during imagined singing, reading music silently and listening to music – is discussed in the context of vocal hygiene. Authors, doctors, specialists, speech therapists and voice pedagogues recommend avoiding listening to music and reading music silently when voice rest is prescribed. It is assumed that the glottis is influenced unknowingly and the vocal folds are moving involuntarily.

The aim of this study was to find out if there is laryngeal and/or a pharyngeal activity during inner singing in comparison to inner speech and at rest. 30 vocally healthy participants were examined with a flexible transnasal videoendoscope. The sample consists of ten non-singers, ten lay-singers and ten professional singers, whom all were examined in five settings. Two raters analyzed the videos qualitatively and quantitatively. During the endoscopic examination, the rater saw movements at the base of the tongue, the posterior and lateral pharynx wall, and the arytenoid cartilage and the vocal folds.

The inner singing task showed there were significantly more laryngeal movements as well as significantly more glottal closures than during the control tasks (at rest, silent reading). No observation of this kind was made for pharyngeal structures. Clear differences between the groups of participants regarding each setting could not be noticed. When total voice rest is prescribed, the patients should tendentially also avoid music imagination. Further research should survey in detail the actual effects of the movements on the regeneration process.

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R120 Transdisciplinary Assessment of Dysphagia in Clinical Settings

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Background: Dysphagia is a very common consequence of stroke (Cabre et al 2009; Cichero et al 2012; Eslick et al 2008). However mild and moderate features of dysphagia are often neglected in the acute phase. When not diagnosed and treated properly dysphagia is the main risk factor of aspiration pneumonia and may often result in social isolation. Dysphagia is often examined by instrumental methods which does not edit transdisciplinary co-operation. In this study, swallowing and eating have been examined with clinical tools which can be used by professional from different backgrounds.

Objective: The study focused in speech therapist's, nurses' and patients' evaluations of swallowing and its' disorders.

Methods: The protocol consisted of screening the easiness of eating and swallowing in natural clinical and bed-side settings

Results: Speech therapists, patients and nurses made quite different judgments about swallowing and eating. The features observed were mainly the same but the interpretation about their meaning differed.

Conclusion (take-home message): Dysphagia can be diagnosed by clinical assessments in acute and subacute phase. We created a transdisciplinary protocol for clinical use. Even mild dysphagia has a large impact on persons' participation and general conceptions of themselves. We need a lot of multi-disciplinary education to ensure that the transdisciplinary diagnostic paths of dysphagia are appropriate in clinical settings.

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R122 Cases study (3 cases) in the Autistic Spectrum and the possibility of a syndrome's existence

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3 cases in the High Functioning Autistic Disorders' Spectrum to be studied with a group of symptoms which consistently occur together. This 3-person group are kids – teenagers at the age of 9 to 15 years old and they are part of a 9-person group who had attended therapy in my national clinic for Autistics. All of these cases have been diagnosed with the Autistic Spectrum Disorders especially at the high functioning section and have received therapy at my clinic for a 9-month duration each.

At the presentation will be presented the difference before and after the therapy in social skills, expressions and tasks especially for this team of sufferers as well. Some of them will be presented via photos and video clips which show the extremely noticeable difference between the beginning of the therapy and at the end of it. It is important to mention that all of them had the same condition characterized by a set of associated symptoms which were the reason they referred to me, they had needed almost the same duration of intervention to gain results and the results were the same.

All of these cases appeared at the time period of the years 2012 till now, 2017. Finally, at the presentation will be presented a random sample of cases at the "normal high functional" autistics to be compared with the other group of cases where we examine a new syndrome's existence at the Autistic Spectrum Disorders

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R124 Vocal tract adjustment without Phonation – A prospective Study

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Voice production, especially during singing, is a complex process where different aspects such as the breathing, glottal activity (phonation) and shaping of the vocal tract are simultaneously invoked. Standard warm up procedures without phonation are common concerning breathing and stance. For training of shaping the vocal tract, the proper position of the vocal tract is usually adjusted with glottal activity, using the resonance position of the different vowels as feedback signal. It would be advantageous to train the vocal tract without stressing the vocal folds.

Such training method is investigated in our study, wherein the vocal tract resonances is excited by external acoustic fields without using the vocal folds. A single frequency generated by a speaker interacts with the vocal tract resonances close to the open mouth of the participants. This static acoustic field is enhanced or muted depending on the position of the articulatory elements as tongue, jaw, lips, velum etc. An amplification of the external signal due to resonance – if the external acoustic field is carefully designed – may correspond to the resonances of the vocal tract also during phonation.

We included 30 vocally healthy lay-singers who were examined in April 2017. The results concerning the acoustical data along with the individual feedback of the participants concerning the influence of the novel technique on their own voice after training are discussed. The measured results correspond with the self-perception of the participants. Furthermore a perspective is given as how the technique may be helpful for voice therapy.

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R125 Spasmodic Dysphonia: Botox injection vs Surgical options

Mr Yakubu Karagama¹

¹Manchester University Hospital NHS Trust, Manchester, United Kingdom

Objective

Explore surgical options in the treatment of adductor spasmodic dysphonia

Introduction

This is a neuromuscular disorder of unknown cause. The abnormality is said to be in the basal ganglia of the brain leading to uncontrolled release of acetyl choline at the neuromuscular junction. This results into involuntary contraction of the laryngeal muscles during phonation causing intermittent voice breaks and strain.

Types

Adductor (ADSD) and abductor spasmodic dysphonia (ABSD) depending on the muscle affected.

Diagnosis

The diagnosis is made by exclusion of other physical lesions of the vocal cords. Usually this is done with fiberoptic and stroboscopic examination of the larynx.

Methods

ADSD: A review of practice and introduction of new surgical techniques. We have reviewed 100 cases receiving botox injection in our clinic using a percutaneous technique guided by laryngeal EMG. We compared this to a small number of patients who underwent CO2 thyroarytenoid myoneurectomy and thyroplasty type 2 surgery.

Result

Our results showed long term promising result with surgical approach.

Conclusion

Botulinum toxin is still the first line treatment for spasmodic dysphonia. However, there is increasing role for surgical treatment with long term excellent result.

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R126 The causes for dysphagia in infants and toddlers

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Objectives

Dysphagia can threaten normal child's development and even his/her life. The fiberoptic endoscopic evaluation of swallowing (FEES) is useful in diagnostics and rehabilitation planning of dysphagia.

Methods

The data about gender, feeding mode, causes for dysphagia, results of FEES, and suggested rehabilitation procedures were taken from the documentation of small children with dysphagia examined in 2017 at our hospital. Causes for unsuccessful per oral feeding were identified.

Results

21 FEES procedures were performed in 19 children (11 boys, 8 girls, mean age 9.6 months, range 0.3-32 months). Eleven children were fed by nasogastric tube (NG), and 4 children had gastrostoma (PEG). The causes for dysphagia were lesions of the nervous system (NS) in 9, genetic causes in 10, and disordered oral sensibility in 2 children. FEES revealed disorders in oral phase in 14, pharyngeal phase in 7, laryngeal mobility and/or sensibility in 9, and evident aspiration in 2 children. The proposed rehabilitation included modifications of the diet/position in 15/5, oral stimulation in 2 children, and PEG in 1 child. Results of FEES suggested normal feeding in 3, modified diet in 4, starting per oral feeding besides the use of NG/PEG in 11 children, and use of NG/PEG in 3 children. Per oral feeding was impossible because of aspiration/disordered oral phase in 2 children with syndromes, and one child with NS lesion.

Conclusions

FEES is a safe procedure even in small children. It must be performed with care to give information about the disordered swallowing phase and possible rehabilitation procedures.

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R135 Combined medialization thyroplasty and reinnervation in unilateral vocal fold paralysis: our experience

Dr Ahmed Ibrahim Nasr¹, Professor Dr. Andreas Mueller¹

¹SRH Wald-Klinikum, Gera, Germany

Medialization thyroplasty is commonly used for treating unilateral vocal fold paralysis. Combination between thyroplasty and arytenoid adduction offers better functional results especially in posterior glottal gaps. Yet the non-innervated vocal fold will show degeneration sooner or later which can be avoided using plain reinnervation.

Tucker described nerve-muscle pedicle reinnervation of the Larynx. In contrast to the non-reproducible results of Tucker, Jean Paul Marie has successfully established a selective laryngeal reinnervation with phrenic nerve transfer. According to the recent clinical studies we know that laryngeal pacing could be the future to restore vocal fold movement. This option needs preserved muscles. Therefore Larynx-Electromyography is mandatory. In case of ongoing muscle atrophy, surgical reinnervation should be indicated. Such plain reinnervation is a quick and easily step that can be done during medialization thyroplasty. It allows muscle-bulk-preservation and enhances later dynamic options.

We present in this case report a modified thyroplasty technique (Mueller's Technique) which is a combination between plain reinnervation of the thyroarytenoid muscle using ansa cervicalis and medialization thyroplasty. A 39-year old male Patient with progressive vocal muscle atrophy was evaluated. The inclusion of the reinnervation step in the medialization thyroplasty didn't remarkably prolong the surgery or the postoperative care. Three months later the voice improved dramatically (DSI: from - 0.55 to 4.74). We are expecting the effect of the reinnervation within the next months to keep the achieved result stable.

Simple reinnervation in combination with traditional medialization thyroplasty may offer a long-term patient satisfaction and avoid future muscle degeneration.

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R136 Exploring Family Early Interactive Literacy Practices

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This study investigates early interactive literacy practices in Jordanian families with young children.

Survey data from 300 Jordanian families was analyzed. Parents were asked about home interactive reading practices, their frequency, and the importance of these practices to child language and literacy skills development. Family and child characteristics were examined as predictors of home reading practices. Descriptive statistics, and analysis of variance to identify predictors of early reading practices among families were used. Bivariate analyses was used to investigate families' perspective of the importance of early reading.

Around 91% of the families read children books, either daily (21%), weekly (48%) or rarely (21%). Analysis of variance was used to analyze family and child characteristics as predictors of early reading practices. Families of children with speech disorders read less than those of children with no speech disorders ($P=.003$). Parents' education significantly affected their early reading practices ($p=.003$). Increasingly, younger parents read less frequently than older parents ($p=.004$). Parents showed awareness of the relation between early reading practices and language ($r=.529$), and reading skills ($r=.683$) development. Approximately 35% of parents stated that receiving education from healthcare providers about the importance of early reading would support home early literacy practices.

Early literacy skills depend largely on the experiences provided to children at home. This study identifies how child and family characteristics can be associated with the family literacy orientation. Health care providers can work in collaboration with families to ensure that young children have sufficient opportunities to participate in home early literacy activities.

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R137 Reliability and Clinical Validity of the Turkish Reflux Symptom Index

Associate Professor, MD Sevtap Akbulut¹, Assistant Professor, CCC-SLP Fatma Esen Aydinli², Attending fellow, MD Oguz Kuşcu³, Associate Professor, CCC-SLP Esra Özcebe², Professor, MD Taner Yilmaz³, Professor, MD Clark Rosen⁴, Professor, PhD, CCC-SLP Jackie Gardner-Schmidt⁵

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Objective

To search the reliability and validity of the Turkish Reflux Symptom Index (RSI).

Materials and Methods

A Turkish version of the original English RSI was developed. One hundred twenty patients with a Reflux Finding Score (RFS) >7 , and 182 asymptomatic subjects with $RFS < 7$ were included in the study. For the RSI reliability analysis, the Turkish RSI was filled twice, with a week interval. The test-retest reliability was assessed through the Pearson correlation test, whereas the Cronbach's α coefficient was used for internal consistency analysis. For the clinical validity assessment, the scores obtained in the patients group were compared with the data from the asymptomatic individuals through the Mann-Whitney U. Finally the correlation between RSI and RFS in the 120 participants was assessed.

Results

Internal consistency of the Turkish version of the RSI showed very high values ($\alpha=0.95$). The test-retest reliability in the patients, as well as in the control group was very high, the values were respectively, $r = 0.85$ and $r=0.82$. The mean RSI score in the patients was significantly higher than the one obtained in the control group (20.08 ± 6.5 and 7.51 ± 4.3 , $p < 0.001$, respectively). The mean RFS score in the patients group was 12.57 ± 4.4 and the correlation between RFS score and RSI score was high ($r = 0.70$).

Conclusion

The Turkish Reflux Symptom Index has been proven to be an easily administered, reliable and valid instrument for the self- evaluation of the laryngopharyngeal reflux.

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R139 Impact of radiation technique and fraction dose on hearing impairment in platinum-treated pediatric medulloblastoma patients

Dr. med. Amelie Tillmanns¹, Dr. med. Sergiu Scobioala², Ross Parfitt¹, Peter Matulat¹, Mohammed Channaoui², Heidi Wolters², Hans Theodor Eich², Antoinette am Zehnhoff-Dinnesen¹

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Introduction

This study compares sensorineural hearing loss (SNHL) in medulloblastoma patients receiving various radiotherapy treatment modalities and platinum-based chemotherapy.

Methods

24 children with medulloblastoma, mean 9.7 years age at diagnosis, with normal pre-treatment hearing were treated with radiotherapy and platinum-based chemotherapy (HIT 2000 protocol). Patients had one of two radiotherapy regimes: conventionally-fractionated (CRT) (N=14) and hyper-fractionated (HRT) (N=10) and one of two separate treatment techniques/positions ((tomotherapy in supine position (N=7) or combined dorso-ventral static field and IMRT radiation in abdominal position (N=17)). Results of all audiological tests were gathered and grouped into two timepoints: T1) prior to radiation up to the 3rd cisplatin cycle; T2) from 3rd cisplatin cycle up to latest follow-up. Best thresholds at T1 were compared with worst at T2. Audiological data included bone-conduction (mean 0.5-3 and 4 & 6 kHz) and air-conduction (4 & 8 kHz) and Münster Classification.

Results

Bilateral high-frequency SNHL was observed in 22/24 patients at T2 and significant differences between thresholds at T1 and T2 were evident across all groups. No difference in audiological outcome was found between radiotherapeutic method groups (CRT vs HRT). Cochlear doses did not differ significantly between any of the groups. Audiological outcome differed significantly (<0.05) between the two radiation technique/position groups in degree of hearing threshold change between timepoints in favour of tomotherapy in the following factors: audiological classification grade, 6 kHz bone-conduction and left-sided 8 kHz air-conduction thresholds.

Conclusions

These results demonstrate the impact of radiation position/technique on the severity of SNHL in medulloblastoma patients.

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R140 Intrafamilial phenotypic variability of Specific Language Impairment

Dr. Sabrina Regele¹, Prof. Dr Lisa Bartha-Doering², Prof. Dr Antoinette am Zehnhoff-Dinnesen¹

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Introduction

Specific Language Impairment (SLI) is a common developmental disorder in childhood. The prevalence is 7% of children attending kindergarten (Thomblin et al.1997). Typical symptoms are deficits in morphology, syntax, vocabulary and written language acquisition. The symptoms are very heterogeneous. Therefore we examined a German family affected by a genetic language disorder to get individual language profiles.

Methods

We investigated language functions in 32 members of a family affected by Specific Language Impairment with a neuropsychological and neurolinguistic test battery. The test battery included verbal-auditory short-term and verbal working memory, reading aloud and writing, language comprehension, morphology and syntax, word fluency and the nonverbal IQ.

Results

Heterogeneity of linguistic deficits was shown in this family. Twelve family members displayed language deficits. One fourth of all family members fulfilled the criteria of the diagnosis SLI. The language deficits can be described as expressive SLI. Most often, verbal fluency, verbal short-term/working memory and writing were impaired. The nonverbal IQ was normal in all family members.

Discussion and Conclusions

Specific Language Impairment is a very complex and heterogeneous disorder. Even in the investigated family (one genetic population) the linguistic disorder manifests itself in different language abilities to a variant degree. The genetic origin of the linguistic disorder in this family is not found yet. Further genetic investigations and a MRT imaging are planned to understand more the etiology and far-reaching effects of Specific Language Impairments.

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R142 Psychological stress and strain at work among phoniaticians

MD, PHD Deuster Dirk¹, Prof., MD, PHD Antoinette am Zehnhoff-Dinnesen¹, Peter Matulat¹

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When assessing working conditions, the observation of psychosocial factors in the workplace is of great importance. The study presents the psychological stress and strain of working physicians with a phoniatic main focus in comparison to German speaking phoniaticians and other occasional groups.

An instrument for the assessment of psychological stress and strain is the Copenhagen Psychosocial Questionnaire (COPSOQ). This questionnaire fulfills the requirements in relation to reliability, generalizability and validity as a screening instrument in the context of risk assessment. For data collection, anonymous data collection was conducted using a self-developed online adaptation of the German standard version of the COPSOQ. In 28 main questions with a total of about 100 sub-items primarily quantitative and emotional demands, conflicts between work and private life, influence and development possibilities and the experience of interpersonal relations and leadership in the work situation are investigated and the effects of these burdens on job satisfaction, life satisfaction, cognitive stress symptoms and health is considered.

The Copenhagen Psychosocial Questionnaire seems to be an appropriate instrument for measuring the psychological stress and strain of working. All non-German speaking and working UEP members are invited. Data collection will be finished in spring 2018.

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R143 Factors Influencing Hearing Aid Use in Old Age

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Objective of the study

The main goal of this thesis was to establish which factors affect the effectiveness of hearing aids for seniors, the motivation for the acquisition and regular use of hearing aids, and whether these factors correlate with age or lifestyle.

Methodology

A questionnaire survey among seniors, who were experienced hearing aid users (N=137, mean age 80,0 y.) with a sensorineural hearing loss, without any significant asymmetry in their thresholds. We correlated the effectiveness of compensation with age, degree of hearing loss (pure tone audiometry, PTA value), education, family background, lifestyle, the presence of visual/tactile/memory problems affecting the use of hearing aids, the duration of hearing impairment without compensation and the intensity of daily use of hearing aids. For hearing aids effectiveness evaluation were used SRT values (results of word audiometry in a free field with and without hearing aids).

Results

We have demonstrated a significant correlation of time of use of hearing aids with their effect in the elderly population. No statistically significant correlation between age and motivation to use the hearing aid was found within the senior population, nor between age and the effect of the hearing aid. We have obtained data on the frequency of difficulties in hearing aid use by seniors.

Conclusion

We have gained information on the relationship between time of hearing aid use and its effect on compensation for hearing loss, plus data on motivations and the frequency with which problems arise in the use of hearing aids in the elderly population.

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R146 Fetal growth restriction is associated with poor communication skills at early school-age

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Objective

Fetal growth restriction (FGR=birth weight <10th percentile and/or abnormal umbilical blood flow) is a risk factor for poor language and communication skills. These skills are essential for a child's cognitive development and academic outcome. In this study communication skills of 8–10-year old FGR children born at 24–40 gestational weeks were compared those of their gestational age-matched, appropriately grown (AGA= birth weight >10th percentile) peers.

Methods

A prospectively collected cohort of 42 FGR and 31 AGA children was recruited prenatally at a Finnish tertiary care centre during 1998–2001 and tested using various assessment methods at the age of 8–10 years. The communication skills were evaluated by the Children's Communication Checklist-2 (CCC-2) questionnaires composed by parents. CCC-2 is a screening tool for identifying children with possible impairment in language skills, pragmatic language skills and in general communication composite (GCC).

Results

The FGR-children demonstrated poorer language and pragmatic language skills than the AGA children. Of the FGR children 19% scored below the 15th percentile threshold value for normality in GCC compared to 7% in AGA group. Furthermore, impaired communication skills became more prominent as the FGR children advanced to the third grade (≥9 years).

Conclusions

FGR, especially in combination with prematurity, seem to be a risk for poor communication skills when compared with AGA children. With growing academic demands communication problems become more evident, indicating a need for early recognition, timely interventions and continuous linguistic evaluations of FGR children in order to optimize their long-term outcome in academic and communication skills.

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R152 Auditory and Visual Speech-Perception Deficits in Language-Impaired Children

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Objectives

Auditory, visual and audiovisual speech perception in 5–6 year-old children with and without developmental language impairment (LI) was investigated.

Methods

The participants were presented with auditory, visual and congruent audiovisual stimuli, and with incongruent McGurk stimuli, where the consonant uttered by the voice (auditory /aPa/) differed from that articulated by the face (visual /aKa/). All auditory and audiovisual speech stimuli were presented in noise and in noise-free conditions.

Results

Both groups of children were inaccurate while perceiving consonants in noise and gained from the visual input in congruent audiovisual stimuli. However, LI children were significantly worse than the typically developing (TD) children in all auditory and congruent audiovisual conditions, and at visual speech-reading. In addition, while TD children were strongly influenced by the visual input in McGurk stimuli and gave mostly /aKa/ responses, LI children gave both /aTa/ and /aKa/ responses. Finally, auditory, visual and audiovisual speech perception did not differ between LI children who had problems predominantly either in receptive or expressive language skills.

Conclusions

LI children had clear deficits in speech-in-noise perception and at visual speech-reading, reflected in poorer performance while perceiving congruent audiovisual speech. The poorer visual speech-reading ability was also reflected in their responses to McGurk stimuli, i.e. children with LI confused visual /aKa/ with /aTa/. In summary, these results show that speech perception problems in LI occur both in auditory and visual domain.

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R153 Assessing and describing simultaneous bilingual development of hearing children of Deaf parents

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The challenge in assessing bilingual children is the considerable heterogeneity that exists among children growing bilingual. This study describes the simultaneous bilingual development of hearing children of Deaf parents (KODAs; Kids of Deaf Adults). These children simultaneously acquire both sign language and spoken language. This special type of bilingual language acquisition is still not widely understood, and the children are therefore at risk of being over- or under-diagnosed regarding a language disorder or delay.

Longitudinal data on 10 KODAs was collected between the ages of 12 and 36 months by using both video-recorded play sessions and structured assessment. Information about the children's linguistic environment was collected with parental interviews and it was used to develop the scoring system to examine the language exposure of the children studied. The children's productive vocabulary was measured in both languages with the MacArthur Communicative Inventory between the ages of 12 to 30 months. Additionally, development in the Finnish language was tested at the age of 36 months by using the Reynell Developmental Language Scales III.

The results showed that KODAs were acquiring both of their languages simultaneously, but the development lagged slightly behind the monolingual age norms. Thus, the comparison of the KODAs' scores and the monolingual age norms should be done with caution. Among the children studied, there was great variation both in the language exposure and development. This finding underlines the importance of assessing the linguistic environment in which bilingual development takes place, and language development in child's both languages.

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R159 Validation and Reliability of the Turkish version of singing voice handicap index short form (SVHI-10)

Fatma Esen Aydın¹, Sevtap Akbulut², Esra Özcebe¹, Oğuz Kuşçu³, Taner Yılmaz³, Clark Rosen⁴, Jackie Gardner-Schmidt⁵

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Objective

The short form of Singing Voice Handicap Index is easy to complete and commonly used for subjective assessment of singers who have voice disorders. The main purpose of this study is to search the reliability and validity of the Turkish version of the singing voice handicap index short form (SVHI-10).

Methods

The translation and adaptation of the Singing Voice Handicap Index to Turkish has been completed. The control group (n=136) consisted of the singers who doesn't have any voice complaints and confirmed that vocally healthy by the videolaryngostroboscopy examination. The study group (n=64) consisted of the singers who has voice complaints and diagnosed to have a voice disorder by the videolaryngostroboscopy. For searching the test-retest reliability, 95 participants filled the index twice with a minimum of 1 week interval.

Results

For the clinical validity assessment, scores obtained in the control group were compared with the study group. To search the content validity, correlation between the SVHI and SVHI-10 was searched. The mean SVHI score in the control group was 8.14 ± 5.4 whereas this value was significantly higher in the study group (20.54 ± 6.9) ($p < 0.001$). The test-retest reliability was very high ; value was $r = 0.90$. The Cronbach's Alpha value which is equal to 0.95 proved high internal consistency and the correlation between the SVHI and SVHI-10 was found to be high.

Conclusions

The Turkish version of the Singing Voice Handicap Index-10 has been proven to be a reliable and valid instrument.

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R160 Impact of a customizable and flexible transportable seated positioning device on swallowing disorders (DATP-DEG)

Virginie WOISARD¹, Mireille COSTES¹

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Positioning adaptations in terms of positioning of the head are recognized as fundamental in the management of swallowing disorders (SD). To reduce the cervical constraints and supply supports stabilizing the cervical position, a global positioning adapted of the body is a required meadow. A device customizable and flexible positioning seated transportable (DTAP) to place on a standard seat was finalized and its profit on SD is to be validated.

The aim of this work is to compare the the patients outcomes reported in a population of SD benefiting from a DTAP with regard to a SD population by not benefiting after 1 month of management.

It is a comparative clinical trial randomized by superiority in 2 parallel groups. The arm without DTAP will benefit as the arm DTAP of an educational session but will have no device to support the positioning correction to be applied during the period following the session.

Assessment criteria are the scores of the several domains of the Dysphagia handicap index, the measures of the seated adaptation positioning control, and of the hyoid bone motion during swallowing.

30 patients were included in each arm : 39 men and 21 women. The average age is of 62 years (min 30 max 82). The aetiologies of the SD are varied. 26 patient ended the protocole in the arm with DATP, 28 in the arm without DATP.

This presentation will present the final outcomes of this study supported by a grant from the University Hospital Toulouse "2012"

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R161 Acute Unilateral Vestibular Failure - a pilot study of Rheohaemapheresis and Steroid therapy

MD, Ph.D. Jakub Dršata¹, prof., MD, Ph.D. Milan Bláha², MD, Ph.D. Jan Mejzlík¹, M.A., Ph.D. Michal Janouch¹, MD, Ph.D. Milan Košťál², prof., MD, Ph.d. Viktor Chrobok¹

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Acute Unilateral Vestibular Failure (AUVF) is an acute clinically-defined disease of vestibular labyrinth with unknown etiology. Among supposed etiological factors, vascular theory seems to play a significant role.

The aim of the study is a pilot probe into the mechanism of vestibular organ function in standard steroid therapy (ST) and rheohaemapheresis (RF).

Patients and methods: in the course of the study years 2016 - 2017, 7 patients have been recruited in the RF arm and 9 patients in the ST therapeutic arm. Both the RF and ST groups underwent detailed vestibular examination prior to therapy and 1 month after therapy termination, of which the most stress was put on videooculography (VOG), video-head-impulse-test (VHIT) and vestibular evoked myogenic potentials (VEMP). Besides, haematological parameters were analyzed.

The results make evident, there is no conclusive vestibular examination for undubious AUVF identification. While the standard caloric test is difficult to be performed in patients with acute vestibular lesion, the VHIT and VEMP are feasible at AUVF patients and appear to provide good consistency with clinical diagnosis. Both treatment methods are safe for complications, none of them show a dedicive superiority in the therapeutic effect.

Supported by MH CZ - DRO (UHHK, 00179906).

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R168 Autism in Finland – families' and professionals' experiences on identification and diagnostic work

Anneli Yliherva¹, L. Rantala², I. Moilanen³, H. Ebeling³, M. Gissler⁴, T. Parviainen⁵, P. Tani⁶, A. Bejarano-Martin⁷, R. Canal-Bedia⁷

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Objective of the study: The main objective in the present study was to screen how families and professionals consider the existing services for children with autism spectrum disorder (ASD) and their families in Finland. Focus is on identification and diagnosing autism in children under 6 years of age.

Method: This study is a part of a larger project on European level: Autism Spectrum Disorders in the European Union (ASDEU). Questionnaires were sent via a webpage to families with an ASD child and to professionals working with children and families. Background factors as well as information on experiences of identification and diagnostic work was gathered. In Finland 63 family members and 258 professionals answered to the questionnaires.

Results: Children with autism were identified approximately at the age of 1,9 years (range 1,1-5,2) based on family survey (N=63). The diagnosis was set at the age of 3,9 years (range 1,3-6,9). Of the parents 31,4 % (16/51) contacted professionals to get assessments for their child and 43,1 % (22/51) of the professionals referred the child to further evaluations. 36 % (18/51) of the professionals reported that ASD is typically identified between 19 to 24 months but only 5,4 % (2/37 responses) reported that the diagnosis is given between that age period.

Conclusion: The time between the identification of ASD features and diagnosis is long in Finland even though the current research has revealed that earlier identification of ASD signs is possible and essential in order to start an early intervention.

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R169 Comprehensive treatment of vocal fold nodules in children

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The main reason of dysphonia in children is vocal folds nodules (VFNs). A big part of acquired dysphonias occurs due to the high vocal loading and incorrect phonation. Children practicing singing in Russia often get VFNs due to the weak vocal techniques, singing as an adult and English language songs.

The aim of this research is to study physiological and acoustic outcomes after the comprehensive treatment of VFNs in singing or not singing children.

In the period of 2016-2017 Phoniatics Department of Federal Research Clinical Centre of Otorhinolaryngology of Russia had 265 children as patients (32.5% boys (n=86); 67,5% girls (n=179), 51% (n=136) - singing children, 9% (n=25) had mutational dysphonia, 11% (n=30) had chronic laryngitis). All patients had got a comprehensive examination including videolaryngostroboscopy, acoustic voice analysis, consultation with neurologist as well as psychologist, endocrinologist, gastroenterologist if needed. The comprehensive treatment consists of medicamentous therapy, physiotherapy, pedagogical correction and relaxation training.

The improvement of clinical and acoustic parameters in the period of three months occurred in 50.5% cases (n=134), in the period of six month – 33% (n=87). 16.5% of cases (n=44) showed a decrease in nodules' size and improvement in acoustic parameters. Biorelaxation training increases the effectiveness of pedagogical correction and reduces the treatment period for 15%.

Comprehensive conservative treatment of VFNs in children is highly effective. A strict requirement is the following of voice regime and no vocal activity for the period of treatment. Results show positive physiological and acoustic outcomes in singing and not singing children.

NOTES

R171 Study on the physiological difference between standing and sitting positions in the Duration for Normal Swallowing

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Aims: To assess the physiological difference between standing and sitting positions in oropharyngeal phase of swallowing in order to better understand of physiological processes.

Introduction: Although sitting upright is the typical position for eating and drinking, the rapid rhythm of daily life activity encourages many people to eat and drink in standing position. There is considerable amount of research assessing the effect of posture (supine and upright) on swallowing. To the best of authors' knowledge, there are no previous studies that approached the difference between sitting and standing positions and their effect on swallowing.

Patients and methods: Dynamic videofluoroscopic swallow studies were performed on 30 healthy adult volunteers (15 males and 15 females) ranging in age from 18 to 45 yrs. All volunteers were examined in both sitting and standing positions with a lateral view using barium sulfate. The protocol included intake of two liquid boluses and two solid boluses. Oral Transient Time and Pharyngeal Transient Time are measured.

Results: During studying fluid bolus, there was significant difference between sitting and standing positions in both Pharyngeal Transient Time (P value=0.005). On the other hand, there was no significant difference between sitting & standing positions in Oral Transient Time.

Conclusion: Variations of PTT during swallowing of fluid bolus in both sitting and standing did not deviate from that of a normal healthy swallow. Further studies combined with respiratory monitoring to assess the pattern of respiration during swallowing are needed

Keywords: Videofluoroscopy, normal swallowing, posture

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R173 Effect of voice therapy with phonomicrosurgery on voice outcomes for vocal fold polyps

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Objective: The aim of the study was to investigate the effect of voice therapy with phonomicrosurgery on voice quality according to subjective and objective voice evaluation parameters in patients with vocal fold polyps.

Methods: The prospective study was performed with the patients who diagnosed as vocal fold polyp between May 2016 and January 2017. The patients divided into Group 1 (only surgery) and Group 2 (surgery+voice therapy). Two groups were compared preoperatively and postoperatively according to; vocal handicap index (VHI-10), GRBAS score, Maximum phonation time (MPT), S/Z ratio, fundamental frequency (FO), Jitter, Shimmer, Noise to harmonic ratio (NHR) .

Results. The study included fifteen female (%37,5) and twenty five (%62,5) male patients. There were a statistically significant decrease in VHI and GRBAS scores in both groups (p<0.001). The posttreatment VHI exchange score in Groups 2 was statistically significant different when compared two groups. A statistically significant increase in MPT durations in both group was detected (p<0.001). The posttreatment MPT was statistically significant different in Group 2 when compared two groups. (p<0.001). Statistically significant increases in FO and decrease in Jitter and Shimmer were detected in both groups. The difference in NHR scores in both groups were not statistically significant (p > 0.05).

Conclusion: This study showed the beneficial effect of the voice therapy when combined with microphonosurgery for vocal fold polyps.

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R180 Bilingual intervention using ABA methods in United Arab Emirates: Preliminary findings

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There are few published studies that have evaluated the effects of bilingual communication interventions for children with autism spectrum disorder (ASD). One common practice among professionals is to ask parents to use one language only with children with ASD. In this study, we describe and report the findings of a project that investigates bilingual intervention using applied behavior analysis (ABA) in children with ASD in the United Arab Emirates (UAE).

We examine the effects of bilingual intervention on vocabulary skills for 30 bilingually exposed children with ASD who are enrolled in an intensive ABA program. The results of our preliminary findings show no detrimental effects to bilingual intervention, and therefore do not recommend advising parents to use one language only. These results seem consistent with the findings of the few published studies.

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R183 The endoscopic evaluation of the oral phase of swallowing (Oral-FEES, O-FEES): a new procedure proposal

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Oral FEES (O-FEES) is an endoscopic procedure conceived to directly visualise the oral phase of swallowing. In the perspective of clinical use, the feasibility, safety and acceptability of O-FEES has been evaluated. Subsequently, the procedure was compared with the radiological gold standard. The acceptability of O-FEES was compared to that of FEES using a 10 point questionnaire submitted to a sample of 52 outpatients complaining of swallowing disorders. Repeated measure analysis of variance (rm-ANOVA) models were used to test the mean difference of acceptability in the same subjects after FEES and O-FEES. Subsequently, another sample of 8 male outpatients underwent a simultaneous O-FEES and videofluoroscopic study (VFSS).

The inter-rater reliability using 10 radiological landmarks, compared to O-FEES, was blindly determined between two raters. Inter-rater agreement between the two judges for O-FEES and VFSS scores was assessed with the single score intra-class correlation coefficient (ICC). Differences between FEES and O-FEES answers for each question and among all the items considered overall were statistically significant (rm-ANOVA; F-statistic $p < 0.001$). The inter-rater agreement concerning endoscopic and radiological evaluations between the two raters showed strong values of intra-class correlation coefficient (ICC) (95% confidence interval): 0.875 (0.373-0.979) and 0.921 (0.542-0.986), respectively.

The Bland-Altman test showed a bias of -0.24 (95% limits of agreement; -1.77 to +1.19), which suggests that both methods produced almost identical results. In clinical practice and compared with FEES, O-FEES is tolerated and safe. Compared with the radiological gold standard, O-FEES offers reliable information about oral preparation and oral propulsion.

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R184 Aspiration: diagnostic contributions from bedside swallowing evaluation and endoscopy

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The aim of this study was to identify which characteristics, collected from bedside swallowing evaluation (BSE) and fiberoptic endoscopic evaluation of swallowing (FEES), are a risk or a protective factor for aspiration.

This retrospective study included data on 1577 consecutive patients, collected from BSE and FEES. A bivariate analysis was performed to verify the association of each variable with aspiration (chi-square test). The variables associated with aspiration entered into a multivariate logistic model to verify and quantify this association.

Several variables were found to be significantly associated (P value of less than 0.05) with aspiration, some being a protective factor against aspiration: cooperation, sensation, laryngeal elevation, direct therapy. The regression model identified the most variables related with aspiration, among which tracheotomy, material pooling, spillage. Patients able to perform dry swallows are 77% less likely to aspirate (protective factor).

Several variables are involved in the protection of airways during swallowing. Their interaction, in patients with swallowing disorders, offers the clinician the best way to interpret BSE and FEES.

NOTES

R188 Adaptations of the respiratory system for phonation of pitch jumps – a real-time MRI study

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The respiratory system is a central part of voice production but the underlying functional relations of diaphragm (DPH) and rib cage (RC) adaptations for the phonation of pitch jumps are not yet understood. This study therefore aims to analyse respiratory dynamics in pitch jumps in phonation via dynamic MRI of the lung. Images of the breathing apparatus of 7 professional singers were captured in a 1.5 T MRI system in supine position during phonation of octave jumps in high, medium and low range of the singer's tessitura in upwards and downwards direction.

In a dynamic series of cross-sectional images of the lung, distances between characteristic anatomical landmarks were measured. While for pitch jumps upwards the singers' DPH was raised quickly, for pitch jumps downwards, the raising DPH was suddenly moved in inspiratory direction. This movement was predominant in the posterior part of DPH and was associated with a shift of the DPH-cupola in anterior direction.

In accordance with previous work of our group, different functional units could be identified in DPH and RC movement during phonation, which could support phonation by facilitating the control of subglottic pressure for pitch adaption.

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R189 Vocal Assessment in unilateral vocal cord paralysis: a qualitative systemic review

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Objective: To review the relevant basic vocal evaluation in unilateral vocal cord paralysis (UVCP).

Study design: a qualitative systemic review.

Methods: Electronic searches were conducted on PUBMED for clinical studies reporting 'voice evaluation', 'stroboscopy', 'perceptual evaluation', 'acoustic and aerodynamic', and 'laryngeal electromyography (LEMG)' in combination with 'unilateral vocal cord paralysis'. The review was limited to studies published between 1989 and January 2018 in English language. Studies independently selected by two-review authors. Qualitative analysis was performed on three domains: quality of studies, strength of evidence and impact of intervention.

Results: Our search has identified 1740 abstracts, and 34 studies met our inclusion criteria. High Inter-rater agreement was reported in glottic insufficiency and vocal fold bowing among the stroboscopic assessment scales. The speaking intensity reflects more direct correlation with the patient's self-assessment of voice. High consensus of auditory perceptual evaluation was reported between GRBAS and CAPE-V scales with higher sensitivity for CAPE-V. LEMG is a good predictor of poor recovery in patients with UVCP and is clinically useful in identifying candidates for early definitive intervention. The acoustic analysis of jitter, shimmer and HNR correlated highly with the improvement after medialization surgery.

Conclusion: There is a lack of agreement in the scientific literature among the standardized basic assessment protocol in UVCP. We suggest the recording of voice intensity as a minimum parameter of aerodynamic analysis. The perceptual evaluation with CAPE-V seems more relevant in the objective assessment with the use of stroboscopic evaluation as a reference for vocal fold position and tension.

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R193 Speech in Adults Treated for Unilateral Cleft Lip Palate

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Objective: The aim of the study was to evaluate speech among adults treated for unilateral CLP (UCLP) as rated by naïve listeners, speech language pathologists (SLPs) and patients, and compare ratings.

Methods: All patients with complete UCLP treated at Uppsala University Hospital, Uppsala, Sweden, between 1960 and 1987 were invited. A total of 73 of 109 patients (67%) participated at a mean follow up time of 35 years, with a non-cleft control group (n=55). All participants filled out a questionnaire for self-rating of speech and their speech was audio-recorded digitally. Fourteen naïve listeners and four SLPs rated the speech individually from blinded recordings.

Results: There were more speech abnormalities among patients compared to controls according to the ratings of naïve listeners and SLPs. The patients were less satisfied with their speech and rated themselves to have more speech abnormalities than controls ($p < 0.001$, Mann Whitney U test). There were positive correlations between the speech ratings by naïve listeners and SLPs ($r = 0.44$ to 0.69 , $p < 0.001$, Spearman). The correlations between ratings of any of these groups and the patients' self-ratings were weaker ($r < 0.40$).

Conclusion: Adult patients treated for UCLP had fairly high speech-satisfaction but lower than controls. Agreement between ratings by naïve listeners and SLPs were fair while the agreement between these ratings and self-assessment of speech varied widely. When assessing treatment outcomes in adult patients treated for UCLP, differences in perception of speech abnormalities by professionals, laymen and patients should be taken into account.

NOTES

R202 Tubes in voice therapy? What research tells us.

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Phonation applying semi-occlusion of the vocal tract like voiced fricatives, lip and tongue trills, nasals, closed vowels [y:, ɔ:, u:], hand over mouth technique, and phonation through some artificial device that narrows and/or lengthens the vocal tract are widely used in voice training and therapy. Phonation through a tube with the distal end either in air or submerged in water has been used for a longer time in voice exercise tradition to improve vocal function and voice quality.

The use of different types of tubes and straws in vocal exercising has become increasingly popular during the last two decades. The topic has also gained a growing international research interest. This lecture summarizes results of investigations on the effects of tube training methods and on principles behind the effects.

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R204 Smoothed Cepstral Peak Prominence (CPPS), Voice Activity and Participation Profile (VAPP) and Vocal Health

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CPPS is a spectrum based acoustic measure of dysphonia. We investigated the relations between CPPS and other vocal health measures.

Vowel and text reading samples from 183 healthy teachers; 99 Kindergarten teachers (KT), and 84 Primary School teachers (PST) were investigated for CPPS. Text reading was recorded in conversational loudness by PST, while KT read the text with chattering noise in the headphones to simulate the voice use in noisy classroom. CPPS values were studied in relation to the VAPP, laryngoscopic findings, and self-reported voice related health variables and voice symptoms. Comparison was also made for CPPS in vowel phonation and text, and between PST and KT.

CPPS from text was significantly higher in KT than PST due to higher sound pressure level in KT. CPPS from vowel had a low negative correlation with VAP-PCom11 ($r = -0.175$, $p = 0.018$). CPPS from text correlated positively with symptoms of vocal fatigue in PST. VAPP Com17 had a positive correlation with CPPS from text in PST ($r = 0.25$, $p = 0.022$), and VAPP Com14 and VappEmotion22 in KT ($r = 0.214$, $p = 0.034$ and $r = 0.217$, $p = 0.032$, respectively). In KT, VAPP severity sum correlated negatively with CPPS txt ($r = -0.233$, $p = 0.02$).

People with louder or more pressed voice (leading to higher CPPS) seem to be more vulnerable to symptoms of vocal fatigue and communicative and emotional problems related to them. Deterioration in voice quality of loud classroom speech may indicate the total severity of voice related problems in functionally healthy subjects.

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R211 Endoscopic management of Laryngotracheal Stenosis Using Diode Laser and Balloon Dilation

Prof. Sergei Karpishchenko¹, Prof. Marina Ryabova¹, Mikhail Ulupov¹

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Study objective: Evaluation of the effectiveness and safety of diode laser surgery and balloon dilation of benign laryngotracheal stenosis (LTS).

Materials and methods: A retrospective chart review was done for 29 patients with LTS who were treated with 980 nm diode laser surgery and balloon dilation between October 2013 and December 2016 in the ENT department of Pavlov First Saint Petersburg State Medical University (Russia).

Results: The study included 29 patients (9 men and 20 women). The stenosis was located within the larynx and / or in the upper third of the trachea (28 patients, 96.5%), had a length of 5 to 40 mm (median – 10 mm) and was 2-3 Cotton-Myer degree, 12 patients had tracheostomy. Under GA with high-frequency jet ventilation four radial incisions with diode laser in pulsed mode were followed by 2 balloon dilations. The number of surgeries varied from 1 to 4 (total of 48 operations), the interval between interventions was on average 23 months (from 6 to 42 months). In 17 cases a four-minute 0.4 mg / kg mitomycin C application was done. Operations and the postoperative period in all cases were uncomplicated. Statistically significant increase in PEF was achieved from 1.9 ± 1.1 l/s to 4.4 ± 1.8 l/s ($p = 0.000$). The follow-up period averaged 36.2 week. Mitomycin C did not significantly affect the result ($p = 0.174$).

Conclusions: Endoscopic diode laser surgery with balloon dilation is a safe and effective method for LTS treatment.

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R212 Diode Laser in Recurrent Respiratory Papillomatosis Surgery

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Diode lasers are used for RRP surgery in Russia. Diode laser is small, portable, versatile, easy to use, has a stable power output, rapid setup time, an expected long life and low costs.

Diode laser energy is maximally absorbed by hemoglobin. The radiation is conducted via a quartz fiber and can be used in constant and pulsed modes for incision, vaporization and interstitial coagulation. Constant irradiation at 7W is better in cases of bulky exophytic papillomas. Pulsed irradiation is better used for flat lesions covering the vocal cords. The depth of coagulation zone in tissue depends on the incision velocity and power, so the surgeon can change the level of tissue coagulation to improve hemostasis if it is necessary.

One hundred and forty-four patients with RRP were treated during the last 10 years. Juvenile form of RRP was diagnosed in 49 cases, adult form – in 95 cases. Sixteen patients were tracheotomized in childhood, 21 patients - with advanced form of RRP in adulthood.

Laser interstitial coagulation provides clean, bloodless surgical field, ensures healing without excessive scarring. We use this method together with continuous suction of denatured tissue to save time.

Contact laser surgery in pulsed mode (980nm, 20-30W, 20-40ms) can provide predictable results of laser tissue interaction, can be safely used without basal membrane damage. To avoid complications and decrease surgery duration we use pulsed vaporization at 20-30W (20-40 ms, 2-3 Hz) for flat lesions.

Conclusions: Diode Lasers are effective and nontraumatic in RRP surgery.

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R213 Surgery of Laryngeal Cancer Using Diode Laser

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¹Pavlov First Saint Petersburg State Medical University, Russian Federation

In the ENT Department of Pavlov First Saint Petersburg State Medical University 980 nm diode laser is used for transoral resection of laryngeal cancer. T1 and T2 tumors can be radically removed by transoral approach. According to our experience, T3 neoplasms could be successfully excised in selected cases without invasion of thyroid perichondrium. The oncologic results of laser surgery are comparable with those of traditional surgery, but functional results are superior: laser surgery preserves natural airway, voice function and deglutition.

Between 2007 and 2017 116 patients (101 males and 15 females aged 23-84 years) with previously untreated laryngeal carcinomas underwent endoscopic diode laser surgery in our department. Supraglottic cancer was in 7 patients, glottic cancer – in 106 patients, subglottic – in 3 cases, T1- in 34 cases, T2 – in 69, T3 – in 13. Laser cordectomy type II was performed in 26 patients, type III – in 23, type IV – in 8, type VI – in 40 patients. None of the patients required tracheostomy or nasogastric tube after surgery.

The follow-up ranged from 6 months to 10 years. There were no significant perioperative complications after the surgery in our series. There were 9 local recurrences in 5 patients with T3, and in 4 patients with T2. Repeated laser surgery was performed in 5 cases, in 4 cases - laryngectomies. Four patients died in 2-3 years after treatment because of distant metastasis. 71 patients are alive with functioning larynx, 84,2% of patients are alive free of disease.

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POSTERS

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P008 Aspiration and treatment of dysphagia in adults with intellectual disability: Research plan

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Objective of the study: Aspiration and dysphagia are common problems in adults with intellectual disability. This study aims to identify aspiration risk through clinical assessment in adults with intellectual disability and to investigate the reliability of the clinical assessment versus videofluorography. The study also aims to the development of an interventional protocol for adults with intellectual disability and dysphagia.

Methods: 50 study subjects with moderate to severe intellectual disability will be recruited to participate in the study. The aim is to assess if aspiration is possible to be identified without videofluorography using a clinical assessment protocol that includes Stewart's Nutrition and Swallowing Checklist, Cervical Auscultation, the 3-oz water swallow test, mealtime observation with oxygen saturation assessment and assessment of oral-motor function. All subjects will also go through videofluorographic assessment in order to evaluate aspiration and the reliability of the clinical assessment protocol. The interventional protocol of rehabilitation will be offered to the study subjects and its effects will be assessed six months after the start of it.

Results: The hypothesis of this study is that clinical assessment will not alone be sufficient for verifying aspiration risk and instrumental assessment will be needed. However clinical assessment may show good results in identifying some features that are associated with aspiration. Rehabilitation will show positive results in managing dysphagia.

Conclusions: Findings will highlight the importance of usage of both clinical and instrumental tool when assessing aspiration with people who have intellectual disability. Rehabilitation tool will show good results when trying to manage dysphagia.

NOTES

P013 Incidence of vocal cord paresis as a consequence of a surgical complication

MD Maria Heikkinen¹, MD Svante Halttunen³, MD, PhD Markku Terävä⁴, MD, PhD Jussi Kärkkäinen⁵, professor Heikki Löppönen², MD, PhD Elina Penttilä¹

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Study: Although laryngoscopy is widely performed routinely after thyroid surgery to screen for vocal cord paresis (VCP), other surgical patients who might be at risk of iatrogenic recurrent laryngeal nerve (RLN) injury are not systematically investigated. The aim of this study was to evaluate the causes and incidence of VCP, and to identify patient groups who might benefit from VCP screening.

Methods: All patients with VCP diagnosed in Kuopio University Hospital, Finland between 2006 and 2015 were retrospectively reviewed (n=320). The incidence of iatrogenic VCP was calculated for each surgical procedure. The results were compared with a historical cohort (years 1979-1992) from the same institution.

Results: The most common etiologies of VCP were iatrogenic (50.6%), idiopathic (21.6%), and neoplasm (14.7%). In this study, 72/162 (44.4%) and 34/162 (21.0%) of all iatrogenic injuries were caused by thyroid surgery and anterior cervical spine procedures compared to 131/179 (73.2%) and 7/131 (3.9%) found in the historical cohort. The incidence of VCP during surgical procedures was 5.2% in thyroid surgery, 4.3% in parathyroid surgery, 16.6% in esophageal surgery, 5.6% in mediastinoscopy, 4% in non-cardiac surgery through sternotomy, 3.2% in surgery of the aortic arch, 1.4% in carotid endarterectomy, and 0.9% in anterior cervical spine procedures. The overall annual incidence rate of VCP was 11.4 per 100 000 inhabitants (95% confidence interval 10.1-12.8).

Conclusion: In addition to those patients undergoing surgery of thyroid and parathyroid gland, also the patients undergoing surgery of the esophagus or mediastinoscopy may benefit from systematic screening for VCP.

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P018 Laryngeal granuloma under Phoniatician umbrella

Assistant Professor Sanja Krejovic Trivic¹, Milan Vukasinovic, Professor Jovica Milovanovic, Professor Vojko Djukic, Aleksandar Ugrinovic, Assistant Professor Aleksandar Trivic

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Laryngeal granulomas include contact and postintubation ulcers and granulomas. Essentially, a contact granuloma is pseudotumor of the lateral wall of the posterior glottis. The most common etiological factor is voice abuse, with predisposing factors such as reflux disease. The therapy of choice is conservative treatment. Surgical laser excision is indicated for resistant cases and those whose size is causing respiratory distress.

The aim of our study is to show the results of standardized diagnostic-therapeutic procedure in the treatment of laryngeal granuloma and we wanted to propose a definition, classification and nomenclature which is not definitely established for this clinical entity in Serbian speaking countries.

A prospective clinical study included 83 patients treated at the Phoniatic department of ENT and MFS Clinic in Belgrade over a period of 2002. up to 2017. year, representing 0,33% all diagnosed phoniatic patients. Endovideolaryngostroboscopy and multidimensional computer analysis were performed to all our patients. The effects of conservative therapy (vocal therapy and aerosol and treatment of comorbidities) were evaluated at the control examinations after 3 months.

Our study included 58 men and 25 women from 25 to 81 years. Contact granuloma was diagnosed in 45 patients, contact ulcer in 23 patients and postintubation granuloma in 15 patients. The most common registered comorbidity was reflux laryngitis in 39 patients. Conservative treatment was achieved in 89% patients. Surgery was performed in 11% patients with relapse in 4 patients. The use of zinc supplementation could significantly contribute to the treatment of this clinical entity.

NOTES

P024 Efficacy of video-provided Home Vocal Function Exercises in People with Functional Dysphonia

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In Germany, patients with functional voice disorders are referred for voice therapy with a speech and language therapist (SLT). Voice therapy primarily is aiming at behavioral changes through direct intervention that finally may be transferred into individual daily routines, consequently enhancing quality of life of each patient.

In the literature, voice therapy is considered effective at decreasing voice problems. However, success related to function and quality of life depends on patients attending sessions, practicing exercises and self-monitoring behavior. There are issues regarding poor adherence with exercise practice, having psychosocial implications as patients' voices may not significantly improve leading to an increased number of therapy sessions or reducing quality of life. The study aims to investigate the efficacy of video-provided home vocal exercises on voice related quality of life in people with functional dysphonia. The pilot case study used a randomized placebo-controlled pre- and post-design. Forty participants with respectively without functional dysphonia and partially psychogenic proportions were recruited following assessment using lingWAVES and Voice Handicap Index measures. Subjects were randomly assigned to intervention or control group, receiving two conditions within a six-week period. The intervention group performed Vocal Function Exercises (VFE) twice on a daily basis while controls accomplished a placebo exercise program. The data will be analyzed using SPSS and descriptive statistics to discuss group effects as well as within- and between-subject variation. Conclusions regarding video guided systematic practice tasks as adjunct to traditional voice therapy will be discussed.

NOTES

P036 Acoustic measurement of prosody in normal and dysarthric Egyptian adults

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Background: prosody started to gain huge interest in voice, language and speech research. Dysprosody may dramatically alter communicative intent and accentuate social isolation. Assessment methods for disordered prosody range from short check lists, elaborated scaling tasks, and a variety of instrumental approaches to study relevant acoustic correlates.

Objective: this work aimed at: (1) Developing a protocol for objective evaluation of prosody in Egyptian adults as a part of the comprehensive perceptual and instrumental prosodic assessment protocol. (2) Testing its application on patients with dysarthria.

Methods: this study was conducted on thirty normal adults and thirty dysarthric patients of both sexes attended at the Unit of Phoniatrics in Alexandria Main University Hospital.

Analysis of prosody was done both subjectively and objectively. All participants' speech samples were recorded and analyzed using the following software programs to obtain pitch, loudness and duration parameters; Computerized Speech Lap to calculate pitch slope and measure pauses duration, Real-Time Pitch and Motor Speech Profile- Advanced version to obtain pitch and loudness parameters.

Results: The study showed reliability and validity of the developed protocol of prosody assessment. Significant differences ($p < 0.05$) were found between cases and controls in most of duration parameters, maximum loudness and range, and pitch parameters. Sensitivity, specificity and cut off scores were calculated for the different instrumental measures.

Conclusion: the protocol was proven to be valid and reliable in the study of prosody. Cut off scores were provided and this would help for both evaluation and following up of dysprosodic patients.

NOTES

P049 Treatment of Ventricular Dysphonia by Botulinum Toxin Injection

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Introduction: Ventricular dysphonia is a voicing disorder in which the ventricular folds participate in voicing as a vibratory source. Symptoms include a low-pitched voice, a harsh, rattling voice, restricted vocal range, voice break, fatigue and diplophonia. Examination may reveal a sphincteric constriction of the supraglottic larynx at phonation. Often, the true vocal folds cannot be visualized at all during voicing. Treatment for ventricular dysphonia has traditionally been voice therapy. Surgical therapy for ventricular dysphonia with removal of the ventricular folds, precluding their use as a vibratory source, presumably forces the patient to find an alternate source of vibration for voicing, typically, the vocal folds. Botulinum toxin injection in the ventricular fold allows for relaxation of the supraglottic constriction during phonation without the risk of permanent scarring.

Objectives: Conduct an analysis of the safety and efficiency of botulinum toxin injection in cases of ventricular dysphonia.

Methods: 8 patients with ventricular dysphonia had botulinum toxinA injection in the ventricular folds. Auditory perceptual assessment by modified GRBAS scale, assessment of impact of the complaint on patients' voice by voice handicap index, videolaryngostroboscopic examination and acoustic analysis pre- and post botulinum toxin injection were done.

Results: patients showed relaxation of the supraglottic constriction during phonation and were able to use the vocal folds as a vibratory source after correction of the primary pathology.

Conclusion: Botulinum toxin injection in ventricular dysphonia allows for relaxation of the supraglottic constriction during phonation, primary VF disease identification and facilitates establishing the vocal folds as the sole voicing source.

NOTES

P052 Gender-related distribution of benign vocal fold lesions: A 13-years single institution review

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Introduction: Benign vocal fold (VF) lesions are a common diagnosis in daily routine. Discrepancies still exist regarding etiology, nomenclature and pathogenesis of certain lesions. We present a large data retrospective from a single institution.

Materials and Methods: In a first step 756 cases with the diagnosis of a benign VF lesion were collected. We analyzed and video reviewed all cases of i) VF nodules, ii) VF polyp, iii) VF cyst, iv) VF granuloma (non-intubation related) and v) Reinke's edema.

Results: Taking into consideration all exclusion factors (e.g. concomitant second lesion, history of previous phonosurgery etc.) 483 cases remained for analysis (231 females and 252 males). Patients of all ages were included (1-84 years), mean age was 41 ± 17 years (mean \pm SD). VF polyps represented the largest entity (37,9%), followed by Reinke's edema (21,3%) and nodules (17,8%). The diagnoses VF nodules, cyst and Reinke's edema were associated with female, VF polyp and granuloma with male gender. Nodules mostly appeared in younger people whereas Reinke's edema and VF granuloma were associated with later adulthood.

Conclusion: We observed an unexpected high rate of male cases, which is in contrast to current literature. We explain this finding by excluding all cases with an insecure differentiation between VF nodules and midfold masses. As these comprise mostly women, we experienced a decrease in female numbers. Differentiation of VF pathologies can be complicated in some cases, which might lead to incoherent diagnoses. Future diagnostic tools might also include molecular levels (e.g. mRNA analysis, microarray etc.).

NOTES

P064 Fibrous mass of the vocal folds: clinical characteristics, treatment and voice results.

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Introduction: Vocal folds fibrous mass is an accumulation of fibrous amorphous material within the lamina propria of the vocal fold.

Objectives: To assess the voice laboratory measurements and the results of surgical treatment of patients with fibrous mass of the vocal folds.

Material and methods: Fifteen patients with diagnosis of fibrous mass of the vocal folds. Based on the final diagnosis, there were 5 subjects with fibrous mass alone. Ten patients had fibrous mass coexisting with other benign lesions- 8 with sulcus, 1 with nodule and 1 with mucosal bridge.

All patients were treated surgically. The preoperative patient evaluation included psychosocial, auditory-perceptual, acoustic and stroboscopic (LVS) assessment. All diagnostics were repeated at a follow up 12 months postoperatively.

Results: The preoperative LVS examination revealed glottal incompetence, stiffness of the vocal fold in the middle segment, asymmetrical and irregular vibrations, and reduced amplitude and mucosal wave. The glottal closure was significantly better after the surgery. Amplitude and mucosal wave values were significantly improved postoperatively.

The analysis of objective acoustic parameters showed that the most frequent disturbances were observed among amplitude variations parameters, which also significantly improved after surgery.

In all domains of GRBAS the differences between preoperative and postoperative assessment were statistically significant.

Conclusions: The fibrous mass of the vocal folds is rather a rare benign pathology. Usually severe voice disturbances make a surgery the first treatment option in such cases but the voice results often are not fully satisfactory.

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P065 Acoustic characteristics of voice in patients treated for sulcus vocalis

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Objectives: To assess voice laboratory measurements and the results of surgical treatment of patients with pathological sulcus.

Material and Methods: Thirty- six patients with diagnosis of pathological sulcus, treated surgically between 2011 and 2016, were enrolled in this study. The diagnosis was made following laryngovideostroboscopic examination and confirmed or revised during microlaryngoscopy. Based on the final diagnosis, there were 22 subjects with type II sulcus and 14 with type III. Twelve patients were diagnosed with unilateral sulcus, and 24 patients with bilateral sulci. All patients underwent surgical excision/undermining of pathological tissue and injection laryngoplasty additionally.

The preoperative patient evaluation included psychosocial, auditory-perceptual, acoustic and laryngovideostroboscopic (LVS) assessment. All diagnostics were repeated at a follow up 12 months postoperatively.

Results: The analysis of objective acoustic parameters showed that the most frequent disturbances were observed among amplitude variations parameters. In some patients we saw the values of parameters within the normal range. After surgery, we observed a significant change in Shim and APQ parameters ($p < 0.05$). Improvement was also observed in the sAPQ parameter, but it was not statistically significant $p = 0.051$. For the remaining acoustic parameters no changes were observed.

Conclusions: Combined surgical techniques are one of a suitable treatment option. Patients with sulcus frequently present with amplitude disturbances, and after surgery we typically see considerable improvement of amplitude variations acoustic measurements.

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P070 VHI scores and acoustic features in street vendors as occupational voice users

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Purpose to investigate acoustic features of phonation and perception of voice handicap in street vendors.

Methods Eighty-eight participants (44 street vendors, 44 controls) were recruited. The mean age of the group was 38.9 ± 16.0 years (range: 20–78 years). Scores of the Arabic version of the Voice Handicap Index (VHI-Arab) were used for analysis. Acoustic measures of fundamental frequency (FO), jitter, shimmer, and signal-to-noise ratio (SNR) were also analyzed.

Results Analysis showed a significant difference between street vendors and controls in the total score of the VHI-Arab ($p < 0.001$) as well as scores of all three VHI-Arab subsections: functional ($p < 0.001$), physical ($p < 0.001$), and emotional ($p = 0.025$). Weak correlations were found among all of the VHI scores and acoustic measures ($-0.219 \leq r \leq 0.355$), except for SNR where a moderate negative correlations were found ($r = -0.555$; -0.4) between the VHI (physical and total) scores and SNR values. Significant differences also were found in FO, jitter, and SNR among specific subgroups of street vendors when stratified by weekly hours worked ($p < 0.05$), and in jitter ($p = 0.39$) when stratified by educational level.

Conclusions Perception of voice handicap and a possible effect on vocal quality in street vendors were noted. The effect of factors, namely work hours and educational level, on voice quality should be further studied.

NOTES

P071 Coping strategies in Persian speaking patients with voice disorders: a new instrument

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Objectives: Coping is one of the important concepts in psychology, which is pertinent to how persons with illness manage the stress of that condition. Voice Disability Coping Questionnaire (VDCQ) is an assessment tool for quantifying coping strategies in those with voice disability. The purpose of the present study was to investigate reliability and validity of the Persian version of VDCQ.

Method: Translation procedure was performed according to the World Health Organization guidelines, and then 138 persons (88 persons with voice disorders and 50 controls) completed the questionnaire. Psychometric properties of the Persian version of VDCQ were investigated.

Results: There was a significant difference between the mean value of patients with dysphonia and that of the control group. The results of test-retest reliability indicated that there is a high correlation between repeated administration of the questionnaire (ICC=89.7). Also, a high Cronbach's alpha coefficient ($\alpha=0.94$) revealed a good internal consistency. Participants' scores in this instrument had a moderate correlation with their scores on voice activity participation profile-Persian version ($r=0.41$, $p<0.001$).

Conclusion: The Persian version of VDCQ, i.e. P-VDCQ, is a reliable and valid instrument that can be used to investigate coping strategies of patients with dysphonia in clinical settings and for research purposes.

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P073 Voice disorders in children

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Objective of the study. Voice disorders diagnostic is actual in ENT practice especially with routine non-specific techniques usage (analyses of complaints and patients' voice quality). The aim of our research was the detection of frequency and reasons of voice disorders in children.

Methods. 386 children aged from 1 month till 17 years were under our observation. We used the routine ENT and endoscopic examination, voice quality and speech analysis in all cases.

Results. We have revealed different voice disorders in 84 cases (22%) in 44 (52%) boys and 40(48%) girls. The main complains were hoarseness (38%) and voice quality dissatisfaction (14,2%). The dysphonia (65,5%) have led between different voice disorders, the second place belonged hyponasality (22,6%), the third- "combined" disorders (combination of dysphonia and hyponasality (8,3%) and dysphonia and loudness (2,4%)).

The leading dysphonia reason were congenital abnormalities (glottis membrane, laryngomalacia) in pre-speaking and acquired pathology (vocal nodules, laryngitis, cicatricial stenosis) in speaking children.

In 26% patients didn't complain on voice quality but doctors have paid attention to it. We revealed 13 dysphonia (in 12 vocal nodules and "functional" in 1) and 9 hyponasality patients.

Conclusions. The frequency of voice disorders in children was 22% with dysphonia predominating. A doctor should pay more attention to patients' voice quality.

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P081 DoctorVox Voice Therapy Method

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DoctorVox Voice Therapy Method (DVT) is a direct technique for general use which can be adapted easily both by the patient and the clinician. DVT is based on Sihvo's LaxVox Method; and developed by Denizoglu in which medical, physical and pedagogical approaches are combined. DVT method provides a well-defined therapy process with tools (exercises and devices). The clinician can make decisions for the 'next step' by monitorization of the patient's motor learning state. It also gives a multichannel biofeedback and establishes the therapeutic adherence by the patient.

The DVT devices mainly provide an artificial elongation of the vocal tract and adjustable backpressure. Acoustic-aerodynamic changes due to artificial elongation, enhanced inertance and massage effect of bubbling and backpressure are the main physical mechanisms. DVT has a multidimensional multilevel treatment strategy and has a dynamic algorithm; there are no exercise templates which is fit for all. The clinician has an action plan (preset- exploration- development- adaptation) and uses various predefined exercises in order to formulate the treatment program of an individual patient.

In Pedagogical Vocology, it may be useful for blending the registers, vocal warm-up and cool down and developing a resonant and an effective voice. In Clinical Vocology DVT is a therapy of choice for various functional and organic voice disorders such as muscle tension dysphonias, vocal fold nodules, habitual and psychogenic dysphonias-aphonias, unilateral vocal fold paralysis, puberphonia, presbiphonia, etc. For phonosurgical applications, it may also be an effective method for pre- and postoperative voice therapy.

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P082 maskVOX: A New Device for Voice Therapy and Vocal Training

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Objective: DoctorVox Voice Therapy Method (DVT), based on Sihvo's LaxVox Method, is a multidimensional treatment strategy providing various exercises and devices to the clinician and the vocal pedagogue as well. Artificial elongation of the vocal tract and backpressure by resonance tubes and bubbling water are the main tools in DVT. One missing point is the limitation of articulatory movements during phonation into the tube. An oral mask has been designed by the author in order to serve for free articulatory movements of the lips, the jaw, and the tongue during therapy exercises.

Methods: After several steps of engineering/reverse engineering and design, an oral mask (maskVOX®) for phonatory use of purpose has been devised. The maskVOX® is made of medical grade elastic silicone in order to fit the face and not to irritate the skin. It can be mounted to the phonatory inlet of the doctor-VOX® and pocketVOX® devices which have been devised for DoctorVox Therapy applications. By using the maskVOX® device, it is possible to speak or sing into the mask and benefit the physical and physiological effects of artificial elongation and backpressure. It can also be used as a sound muffler which additionally provides the singer use the full voice without disturbing others in a calm environment.

Results and Conclusions: The maskVOX® is a unique device in the related literature. The maskVOX® may be a therapy tool of choice not only for voice problems but also for speech disorders. Future clinical research is warranted.

P085 The attitude of teachers on referring learning disabilities students to speech therapy

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Background and objective: Learning disabilities of academic skills causes serious communicational, emotional and social harm to students. Teachers, as people who deal directly with students on a daily basis, have an important role in identifying and referring students suspected of these disabilities. Therefore, the aim of this study was to investigate the role of primary school teachers' awareness and attitude about the signs and symptoms of learning disabilities on the referral of the students of Ahvaz to speech therapy centers.

Materials and methods: This case-control study was conducted on 165 elementary school teachers. The teacher's awareness questionnaire was used to determine the teachers' awareness level. A logistic regression test was used to determine the role of teachers' attributes on the referral of students to speech therapies.

Findings: The mean total score of teachers' awareness of students' learning disabilities was significantly different in the case and control groups ($p = 0.001$). Teachers' awareness scores had a direct and meaningful relationship with working experience ($p = 0.001$) and participation in educational workshops ($p = 0.001$). However, there was no significant relationship between the teachers' awareness score with age and gender ($p > 0.05$).

Conclusion: Teachers' experience of teaching, their level of education, history of participation in educational workshops, and teachers' awareness of learning disabilities are critical in referring students to speech therapy centers. It is recommended that teachers participate in workshops at regular intervals.

Keywords: Learning disabilities, teachers' awareness, speech therapy referrals

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P094 Irritable larynx syndrome and problems with indoor air at work – preliminary results

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Objectives: To describe the laryngeal and voice findings in subjects reporting voice and/or respiratory symptoms at water damaged work places.

Methods: The participants in the present study were 78 voluntary patients referred to specialist care due to voice or respiratory symptoms associated with moisture damage at work (female n=66, male n=12, mean age 46 years, range 22-64 years). Voice samples were recorded and the Acoustic Voice Quality Index 02.02 (AVQI) and the inverse filtering analyses were executed. The AVQI 02.02 threshold level 3.09 on scale 0-10 in Finnish speaking population was used to separate abnormal voice quality from normal. Phoniatric videostroboscopy was done and videos were assessed.

Results: 41.0% (32) of the participants had deviant AVQI 02.02. In the videostroboscopy organic laryngeal findings were found in only 5.1% (4) of the participants. Different functional abnormalities were found more frequently: primary muscle tension dysphonia in 46.2% (36), supraglottic constriction in 11.5% (9), forward pending of arytenoid cartilages during forced breathing in 24.4% (19) and any combination of these in 57.7% (45) of the participants. All these findings refer to the irritable larynx syndrome.

Conclusions: The results of this preliminary study suggest that unfavourable laryngeal functional reactions are common in people who report voice problems and/or respiratory symptoms at work in buildings with water damage.

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P095 Non-Verbal Communication in Speech-Impaired Persons: Two Case Studies

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This presentation will describe two case studies where speech-impaired persons attempted communication via non-speech methods, and the results thereof. The objective of these studies is twofold: to demonstrate the techniques developed by speech-impaired persons to communicate without relying on speech, and to shed light on ways for tutors or therapists to identify when speech-impaired persons are using these alternate communication methods and respond accordingly.

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P098 Corpus of the oral language of Mandarin-speaking typically developing and language-delayed children

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Previous studies have established language corpora for exploring Mandarin linguistic features. Most of the corpora are gathered from adults or written materials. The oral language of young children was only collected in few corpora and most of the samples were acquired in a unitary context. Different contexts were used in different studies including free play, storytelling and daily routines. To compare language delayed with typically developing children, by exploring the association between language weakness and language disorders, an identical and systematic procedure should be conducted when collecting the samples.

This study followed the Chinese Language Sample Analysis Manual for Children in collecting, transcribing and analyzing language samples. Four different contexts: school-related conversation, story retelling, free play and family-related conversation, were used to ensure that the samples are representative. All the children who participated in this study spoke Mandarin as their first language. The researchers conducted standardized measurements of the children to differentiate typically developing children from those with a language delay. The collected language samples were then transcribed and analysed using CHAT and CLAN of the CHILDES.

A corpus was developed containing a total of 134 language samples including samples of 78 typical developing children and 56 children with language delay. Word lists were developed for both groups, containing all words produced with corresponding word frequency, accumulated frequency and phonetic labeling. The developed corpus will facilitate further research analyzing how typically developing children use their language and the weakness of children with a language delay.

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P099 Text analyser for efficient generation of Mandarin oral reading test materials for hearing impaired children

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Previous studies have shown that children's speech intelligibility is affected by their listening quality. The structured oral reading test may provide an objective way to assess the speech performance of children with hearing loss in different dimensions, such as reading fluency, word segmentation, reading intonation and prosodic expressions. However, it is far too laborious to manually generate this reading material because several criteria need to be considered, such as the level of difficulty of the words and the phonetic distribution of the test material. Any replacement of a word will be related to several criteria simultaneously, while the readability of the material has to be maintained. The present study aims to develop a text analyser to increase the efficiency in producing oral reading test materials.

The test designers firstly composed draft test materials and the text analyser performed the following processing steps: word segmentation, phonetic labeling, and criteria check. The mismatched items will be highlighted and supporting word lists were provided to help the test designer to replace the words that contribute the most to the discrepancies.

By utilising the text analyser, a total of 18 test materials for three different difficulty levels that matched all the criteria were developed. The average time for completing a test material was less than four hours.

This text analyser not only provides sufficient information to improve word replacement efficiency, but also supports effective strategies for choosing candidate words to achieve better matching. The generation efficiency of oral reading test materials was significantly improved.

NOTES

P104 Apraxia of Speech in adolescents and adults with Down syndrome

PhD Sandra Cristina Fonseca Pires¹, SLP Carolina Fonseca de Freitas¹

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Objective: There was two aim objectives, translate to portuguese the protocol "Down Syndrome Speech Intelligibility Survey" (Kumin,2006), and verify symptoms of Apraxia of Speech in adolescents and adults with Down Syndrome (DS), and described the speech intelligibility of people with DS.

Method: This study was approved by the Ethics and Research Committee. Participants were 22 adolescents and adults with DS, students from ADID institution, from 12 to 31 years old. The protocol of Speech Intelligibility Survey from Kumin (2006) was translated to portuguese, reviewed by two people with english language proficiency. The translated protocol was send to the parente to answer and return later. Phonological process was assessed from speech samples by imitation and nomeation - ABFW protocol (Andrade, 2004). It was analysed phonological processes occurrence, percentage of consonants correct (PCC) metric, and to speech intelligibility was used categories of Hodson and Paden; not intelligible, essencially intelligible, sometimes intelligible.

Results: There were verify symptoms of Apraxia of Speech in people with DS, and the phonological skills. Male gendre is suggested has poor intelligibility. Vowel difficulties was the only factor less idntified by the survey. The phonological processes more used was cluster reduction and devoicing of stop consoant
Conclusion: Apraxia of Speech is a characteristics of DS speech and one fator of speech intelligibility impairment of these people. The prevalence and incidence of Apraxia of Speech is yet one thopic that need more researches.

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P105 Assessment of Fluency in Down syndrome adolescents and adults

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Objectives: The aim of this study was to analyze the fluency of speech of adolescents and adults with Down syndrome (DS), verify the patterns of speech disfluencies (cluttering/stuttering) and speed of speech in the DS. Method: 12 adolescents and adults with DS between 13 and 26 years world. Assessment of speech fluency by record of speech produced after show 3 kinds of pictures and also by a conversation with the participant, all recorded for later analyse. According Andrade (2004), this speech must has 200 fluents syllabies.

Results: It is very hard to get a extended speech of DS people, that makes difficult to determine a pattern of speech fluency of this population. This study showed more hesitation and syllabies repetition of distribution of dysfluency categories. There was more dysfluencies with men than women. There was also speaking rate lower than typical pattern, and higher dysfluencies of both categories, non-stuttered disfluencies (normal disfluencies) and stuttering-like disfluencies.

Conclusion: Speech of people with DS has a diferente distribution of types of disfluencies than the speech of normally developing people, with more dysfluencies of both categories and speaking rate impairment. This results on damage of intelligibility of speech. We need more researches about assessment of speech fluency of people with DS, and also about intervention.

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P108 Significance of Pepsin from Saliva in Diagnosis and Treatment of Laryngopharyngeal Reflux

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Objective of the study: Laryngopharyngeal reflux (LPR) is a common illness of otolaryngology visits. Over the past few years, pepsin has become a promising marker of LPR, and in our study we have showed that the values of pepsin in saliva combined with clinical symptoms (» reflux symptom index«- the Belafsky RSI) and clinical findings videolaryngoscopy (»reflux finding score« the RFS by Belafsky) are significant diagnostic indicator of disease.

Patients and Methods: In a prospective clinical study we selected 45 patients with clinical symptoms and signs of LPR and 30 subjects in the control group without clinical symptoms. All subjects underwent, videolaryngoscopy, esophagogastroduodenoscopy, and all sampled saliva for analysis of the value of pepsin measured by using enzyme-linked immunosorbent assay. The Reflux Symptom Index survey was also administered before and after treatment with proton pump inhibitors.

Results: The average value of pepsin in patients with suspected LPR before treatment were higher than average value of pepsin after treatment, and comparing the level of pepsin before therapy in patients with suspected LPR and pepsin in the saliva of the control group confirmed a statistically significant difference in the amount of pepsin. The RSI scores were statistically different between these groups of subjects.

Conclusions: In our study we have proved that tracking the value of pepsin in the saliva is a valuable diagnostic indicator of LPR and a valuable indicator of the success of the treatment.

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P109 A longitudinal research of 10 years of hearing screening in athletes with an intellectual disability

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Purpose: Hearing screening of 3,778 athletes with an intellectual disability over a period of 10 years.

Methods: After registration, an otoscopy is performed and hearing is screened with Distortion Product Otoacoustic Emissions (DPOAE). Depending on screening results, tympanometry and pure tone audiometry are taken.

Results: In ten years 3,778 athletes between the age of 8 and 71 years are screened at the Belgian National Special Olympic Games. The average age is 31.6 years. The group consists of 2,291 (60.6%) men and 1,487 (39.4%) women. 28.3% is referred to an ENT-specialist for excessive ear wax, 26.9% for middle ear problems and 37.6% for possible hearing loss. A significant referral is seen with increasing age and in people with Down syndrome. Significant more refers due to aberrant tympanometry is seen in people with Down syndrome (38.6%) versus the other athletes (18.5%).

Conclusion: The percentage of athletes referred for excessive ear wax diminishes over the years due to increasing experience of the recurrent ENT-specialists. Hearing loss in this population (37.6%) is higher than in the healthy population (5.3%). People with Down syndrome score worse than other athletes with an intellectual disability. Hearing impairment can give more and/or delayed speech and language difficulties. Especially for this population, lesser communication will reflect on their whole live (social, sport, every day...).

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P127 Scale of assessment of myofunctional disorders of the maxillofacial region in children

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Malfunction of muscles of the maxillofacial area (FACIAL), often manifested by dysphonia lips, open mouth "syndrome long faces", infantile swallowing, and others. Due to the high prevalence of such disorders in children there are different scales and protocols for their evaluation.

We have developed our own rating scale of these violations, which includes the following sections: complaints, anamnesis, physical development, condition and appearance of the chewing, the swallowing, as cheeks, forehead muscles, lingual frenulum, the appearance of the face in statics, the presence and localization of tics, the position of the lips and tongue in its natural state, structure and tone of language, form and structure of the hard and soft palate, the condition of the bite, the movement of the lips, tongue, jaw and cheeks, the type and nature of breathing, as the air stream, the condition of the lips and tongue when swallowing efficiency swallowing, the rate of speech, the height and power of voice with the time dimension maximum phonation, hoarseness, nasalization. intonation, the utterance sounds.

We have also developed a numerical score for each violation of these sections and identified options and recommended urgent remedial work with such children. As a rule, if such violations required an interdisciplinary approach which includes speech pathologist, otolaryngologist, orthodontist, and physiotherapist.

NOTES

P130 Additional fibrolaryngoscopic tests: clinical significance

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Fibrolaryngoscopy is one of the main endoscopic methods which laryngologists apply. Transnasal fibrolaryngoscopy allows examination of the larynx in details in its physiological state during respiration, phonation and available in practically all patients. All the parts of the larynx, which are often not seen during indirect laryngoscopy, are visible.

The aim of our study is to analyze diagnostic possibilities of additional fibrolaryngoscopic tests, to describe indications for different diagnostic methods during endoscopy in patients with laryngeal pathology.

Methods: Besides routine examination for better view of some anatomical areas of the larynx we use a number of additional tests, such as, measurement of anterior commissure angle and other.

Since 2016 our department has examined 81 patients with normal vocal folds mobility, 32 males and 49 females. Maximal anterior commissure angle values were measured. They varied from 65 to 80 degrees among males and between 50 and 60 degree among females.

Results: Later this method was applied for treatment effectiveness estimation in patients with unilateral vocal fold paresis. The fold being in medial position in 9 patients: 3 males and 6 females. The results of angle measurement during unilateral vocal fold palsy were from 35 to 40 degrees among males and from 25 to 30 degrees among females.

Conclusions: Additional tests and methods are extending diagnostic possibilities of fibrolaryngoscopy. Fibrolaryngoscopy is an obligatory method of examination of patients with suspicion on laryngeal pathology.

NOTES

P131 Association between aggressive recurrent respiratory papillomatosis and HLA-DQ alleles

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Recurrent respiratory papillomatosis (RRP) induced by human papilloma virus 6 and 11 type. However, the presence of a specific virus in RRP is not enough for disease development, activation mechanisms are required. We analyzed the association of alleles of HLA-DQB1 * 0301 and HLA-DQ2 (alleles DQA1 * 0501 / DQB1 * 0201) with recurrent papillomatosis. Our study involved 26 people with juvenile (18) and adult-onset (8) RRP.

According the genetic testing results, 9 people (57,7%) with RRP identified DQB1 allele * 0301. In control group consisting of patients with chronic hyperplastic laryngitis DQB1 * 0301 allele was found in 10,0%. Haplotype HLA-DQ2 (DQA1 * 0501 / DQB1 * 0201) was found in 11 patients (42,3%) with RRP. Patients with recurrent respiratory papillomatosis were divided into groups with aggressive and non-aggressive course of the disease. In patients with an aggressive course of juvenile-onset RRP HLA-DQ2 (DQA1 * 0501 / DQB1 * 0201) haplotype was met in 100% cases. Thus, all patients with severe respiratory papillomatosis were carriers of alleles DQV1 * 0301 in conjunction with the heterodimer DQ2 (DQA1 * 0501 / DQB1 * 0201).

Obtained result does not exclude the association of allele DQB1 * 0301 with RRP. The presence of the DQ2 (DQA1 * 0501 / DQB1 * 0201) haplotype may have relation with the severity of recurrent respiratory papillomatosis.

NOTES

P138 The first experience of use of voice analysis in voice laboratory in Kazakhstan

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For creation of professional environment of diagnostics in Kazakhstan, in accordance with international standards, we have formed the "voice laboratory" for research of professional diseases of people with voice professions. More accurate method of evaluation of severity of voice violations is a voice analysis, which allows to study simultaneously several physical parameters that characterize not only condition of voice function, but also vocal abilities.

The purpose of present research is to study clinical importance of methods of voice analysis applicable to diagnostics conditions and treatment of voice violation in Kazakhstan.

Research objectives: 1. To study specialties of acoustic parameters of voice of healthy singers and not singing people.

2. To define opportunities of acoustic voice analysis in evaluation of treatment effectiveness of people with voice function violation.

Materials and methods: Research was done on clinical base of KazUMO in ENT clinic "V-ent" equipped with endoscopic equipment of "Xion" company and "LingWaves" program of voice analysis. 120 adults and children with different complaints on voice violation were studied during September-December'17 period.

Research results: Standards of such acoustic voice parameters as Jitter, DSI, and indicators of speech and singing profile, have been defined. It was proven that during mutation of boys in comparison with girls, there are more pronounced changes of almost all acoustic voice parameters.

Considering acoustic analysis, the condition function and specialties of phonograms of patients with voice violations were studied. This made a base for formation of tactics of the therapeutic approach to treat patients with larynx diseases.

NOTES

P162 Dual Coding Theory: The imagery-language connection

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Dual coding theory is a theory of mind in which all cognition consists of the independent activity of, or interplay between, two great mental codes: a verbal coded specialized for language and a non-verbal code specialized for knowledge of the world in the form of mental images.

Without the sensory information of imagery, words have no meaning, neither individually nor connected together to form concepts.

This separate, subtle comprehension weakness often undermines the reading process and directly affect the comprehension even with the use of context, prior knowledge, and background experience. It is a weakness based on the sensory system in creating an imaged gestalt. When individuals do not easily create a gestalt, they often process only parts of what they read or hear.

NOTES

P163 Boost irradiation as a treatment option of the recurrent carcinoma in situ of the larynx

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Objective: A carcinoma in situ needs treatment just like an invasive carcinoma. This report is about a 77 year old patient who received boost Irradiation as a treatment option after CIS field cancerization in the voice box.

Methods and results: Due to a pT1cN0cMx glottic carcinoma the patient underwent Co2-Laser treatment with total left sided subtotal chordectomy in 2012. Due to aphonia caused by glottic insufficiency after resecting an invasive carcinoma of the left vocal cord our patient received a left sided thyroplasty with Goretex®. Two years after regular aftercare, a tumorous swelling of the left vocal cord was seen. A biopsy of the tumor histopathological reappraisal revealed a cis. Goretex® was removed in general anesthesia and in a second step, the cis was resected by CO2 Laser in total three times. Due to proven CIS even in the anterior commissure, a frontolateral partial laryngectomy (Leroux Roberts) was performed which showed some field cancerization with CIS.

Due to the lack of invasiveness but no reasonable option of treatment, the results were discussed intensively in our interdisciplinary tumor board. After another proof of persisting CIS, the radiooncologists were willing to perform some boost irradiation which was performed in 2016. One year later the patient received another microlaryngoscopy with several biopsies. Until now, neither signs of cis nor invasive carcinoma could be found in several endoscopies.

Conclusions: Radiotherapy as a treatment for field cancerization in larynx carcinoma in situ should be considered as a treatment option.

NOTES

P167 The significance of clinical voice examination to vocal music teaching

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1. Vocal music is created by the human voice organs, most of which are not visible and untouchable, especially vocal folds and air flow.
2. Due to different growth environments, personality traits, and speaking habits, a vocal student's voice structure, speaking situation, or singing voice type cannot be easily judged by the singing teacher only by ear.
3. The clinical voice examination given by a voice doctor could provide a vocal student's physical structure and vocal states, which is the basis of the individualized singing teaching.
4. An effective combination of the singing teacher's ear and a voice doctor's eyes would benefit the voice type classification accuracy, voice health maintenance, and best vocal quality presentation of the vocal student.

NOTES

P170 World Voice Day in Russia

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World Voice Day is celebrated in Russia since 2007. A wide range of specialists such as phoniatricians, otorhinolaryngologists, vocal teachers, singers, actors, students of art and music colleges and universities make more than 100 events every year! Lectures, examinations, workshops, reports on the base of conferences, flashmobs, interviews on the radio and TV, trainings, hotlines, concerts, open days in hospitals are organized across the country. All events are dedicated to the World Voice Day and aimed at attracting attention to the one of the most important tools – our voice.

Every year more and more people becoming organizers and do their best in showing people how to use their voice, methods of treatment, improving of voice techniques. Traditional main organizer and coordinator of Word Voice Day in Russia is Federal Research Clinical Centre of otorhinolaryngology of Russian Federation Ministry of public health. Specialists of the centre every year make important screenings for detecting tumors of a larynx, give interviews on the main channels about voice disorders and what to do in order to prevent it. Events are held in all federal districts of a country, more than in 25 cities.

NOTES

P172 Speech therapy in comprehensive rehabilitation and resocialization of patients with head and neck tumors

Doctor of Psychology, Professor Madrudin Magomed-Eminov², **Doctor of Pedagogy, Professor Olga Orlova^{3,4}**, Candidate of Medical Sciences Dmitriy Reshetov¹, Candidate of Pedagogic Sciences, Docent Daria Uklonskaya¹, Candidate of Medical Sciences Olga Sokolova^{5,1}, Yulia Pokrovskaya⁶, Victoria Agaeva⁶, Yulia Khoroshkova², Anastasia Gureto¹

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Modern medicine often allows saving lives for patients with cancer, and quality of life becomes significant success rate of treatment. Patients after surgical treatment of head and neck tumors need comprehensive rehabilitation, particularly, speech therapy. The purpose of our study was to optimize logopaedic impact within comprehensive rehabilitation.

We have conducted research during two years with 38 patients after surgical treatment of head and neck tumors. Their speech status was studied with auditive evaluation, questioning of patients and relatives. Their psychological state and focus of motivation were studied with qualitative interview and meaning-narrative analysis. At the beginning of rehabilitation work all patients noted disorders of verbal communication, because of anatomical-functional defects and neurologic impairment, and dysphagia of varying severity.

Comprehensive therapy was directed to normalization of swallowing, speech breathing, voice and pronunciation. 33 patients (87%) achieved normalization of meal process; 5 patients (13%) achieved its significant improvement. Elimination of dysphagia almost always facilitated speech rehabilitation. 36 patients (95%) achieved recovery or significant improvement of verbal communication by speech enhancement with normalization of voice function and pronunciation. Analysis of qualitative interviews showed: most successful recovery was in patients with high orientation to success and low orientation to failure.

We conclude that effectiveness of rehabilitation increases by persistent work of patients together with specialists and relatives. It depends on focus of motivation and adequate assessment of new life situation. This allows to reduce disability after surgical treatment of head and neck tumors and to return such patients to habitual way of life.

NOTES

P176 Differences in vocal tract dimensions between female classical singing, kulning and edge

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This study compared vocal tract dimensions between three singing styles: classical, kulning and a subtype of belting called 'edge' according to Complete Vocal Technique terminology. These styles are known to have great audibility, yet they are quite different in timbre. This study aimed to better understand the differences between these singing styles at the level of the vocal tract.

Magnetic Resonance Imaging (MRI) was used to study vocal tract shapes of three female singers singing at pitch C5 (523 Hz) on vowel [i:] or [e:] in edge. Dynamic 2D MRI was recorded while the subjects sung transitions from classical to kulning. Additionally, the singers sustained 15 second long notes in each of the styles for static 3D MRI registrations. Several measurements were made from the MR images.

Results showed that all subjects had a lower laryngeal position, larger tongue-palate distance, and a more elevated soft palate in classical singing than in kulning. One subject phonated also in edge and showed a more elevated larynx and a wider jaw opening and protrusion in edge than in kulning and classical singing. Cross-sectional areas of the low pharynx (Aph) and epilarynx (Ae) and the ratio between them were greater in classical singing compared to kulning. Edge had the smallest Ae out of these singing styles, while Aph and the Aph/Ae ratio were intermediate compared to classical singing and kulning.

Classical singing, kulning and edge showed several differences in vocal tract dimensions, which likely contribute to the different timbre of these singing styles.

NOTES

P179 Study on the Subjective and Objective Evaluation of the Vocal Tone of Beijing Opera

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Objective: To study the subjective and objective evaluation methods of the vocal tone of Beijing Opera.

Method: The acoustic parameters, such as the main acoustic parameters and the singer resonance peak, were used to measure the acoustic parameters, such as the base frequency, pitch, length and spectrum energy distribution of the 9 trainees, and compared them with the subjective evaluation of the experts.

Results: Basic frequency, pitch, pitch, spectral energy distribution, and resonance peaks are all correlated with the sound level, and objective sorting is quite consistent with auditory subjective order. In particular, the first three, the last three and the middle one are almost exactly the same.

Conclusion: The acoustic analysis method can be used as an objective evaluation method for the evaluation of the vocal quality of Beijing Opera. It can be assisted in teaching or singing.

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P185 Good rehabilitation practice - Group Counselling and Augmentative and Alternative Communication

Rehabilitation advisor Jaana Reuter¹

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Objectives: Group counseling about Augmentative and Alternative Communication targeted for parents and educators started in the Pirkanmaa Hospital District in 2009 as a trial, and later extended to a developing project. The purpose of the study is to describe the clients' experiences of participating in the group counseling and to report the participants' utilization of AAC after group counseling in their daily lives.

Methods: This study was both qualitative and quantitative. The data were collected using a web-based questionnaire Webropol. A part of the open questions were analyzed by using data-based content analysis and partly by quantitative analysis. The multiple-choice questions were analyzed using quantitative methods. The questionnaire was sent to 270 participants, the response rate was 43%.

Results: The participants' experiences related to encouragement for using AAC in everyday life and reinforcement of their participation in the rehabilitation of their child. In addition participants expressed becoming more conscious of the importance of interaction. The advantages of the group counseling for all participants were receiving social and cognitive support, as well as support for coping.

Conclusions: Group counseling in AAC is an effective way giving parents and the careers practical experiences and theoretical background how to support children's communication. AAC-information should be provided for the parents and the careers as soon as the need for the support has been noticed.

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P186 Language development of children with cortical visual impairment and additional disabilities

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Speech and language therapists face many difficulties when developing language of children with cortical visual impairment and additional disabilities. Most of them don't know why some children with CVI are able to understand specific objects or pictures and some children can't understand them. In addition they don't know why the vision fluctuates from time to time.

On the other hand the majority of Augmentative and Alternative Communication (AAC) systems usually use visually based symbols. This presentation will focus on language development of children with cortical vision impairment and additional disabilities. It will define the cortical visual impairment, outline characteristics and behaviors associated with CVI, identify the appropriate strategies can be used to create opportunities for language development and provide an overview of environmental accommodation.

NOTES

P205 A Comparative Study of the pVHI-TR and the TR-CVHI-10 Among Children with Vocal Nodules

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Aim: The aim of this study is to reveal the relationship between pVHI-TR and the TR-CVHI-10 in children with vocal nodules in Turkey.

Method: The design of this study is a cross-sectional descriptive study. 50 children between the ages of 4 and 14 were participated in this study. They all have vocal fold nodules. pVHI-TR was filled by children's parents and TR-CVHI-10 was filled by children themselves. Only 4 children, who are not literate, filled the TR-CVHI-10 by a doctor pVHI-TR is a valid and reliable tool to assess the parent's perception about their children's voice. TR-CVHI-10 is also a valid and reliable tool to assess the children's perception about their voice and voice disorders. They are self-assessment tools.

Results: The mean score of total pVHI-TR was 36,7±18,8 and the mean score of total TR-CVHI-10 was 12,1±6,8. The correlation between the total scores of the two indexes was highly significant ($r=0,71$, $p<0,001$).

Conclusions: There is a high prevalence of voice disorders in children. A high correlation was found between the results of the pVHI-TR and TR-CVHI-10. Both parents and children have a similar perception of children's speech disorders. This shows ENT doctors can benefit from both the parents' and children's perception of the children's voice disorder.

NOTES

P210 Methodological decisions in consistent selectivity in data collection about the impact of aphasia rehabilitation

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Background: Already in 1989 Brindley et al made a statement that it will be “only by radically reorganizing current provision SLT can be effective in the field of aphasia therapy.” The current clinical practice in speech therapy is to spread (usually quite a small overall amount of) treatment sessions over a long time period.

The main challenges to take advantage of and to draw conclusions on the effectiveness of rehabilitation existing research is the fact that research settings vary widely. The main challenges of the consistent selectivity in data collection are, for example, irregular accumulation of the data, clinical pressure to use the “common solutions of the intensity of therapy” inside the rehabilitation system and conceptual challenges when assessing the RCT study design.

Contents: This poster provides one example of decision making of basic assumptions concerning ontological, epistemological and methodological decisions behind a scientifically justified research. Also main clinical challenges for the consistent selectivity of clinical efficacy RCT data will be presented. It will be demonstrated that collecting a RCT data is a gauntlet, indeed.

Take-home message: In the scientifically justified rehabilitation impact studies, the basis for the methodical decisions and selections is constructed by the precise determination of methodological decisions.

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P216 Congenitally Missing Teeth (Hypodontia) In Children with Can Cause Severe Speech Production-A Case Study

Tahany Ahmad¹, Ain Shams University Enas Salem

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Introduction and objectives: Some of children with ADHD likely to have “Congenitally Missing Teeth” which caused severe speech production. The effect of dentition on speech becomes more complicated when a child has both an articulation disorder, an incorrect bite (e.g., “open bite”). We tried to reduce the ADHD symptoms and severe speech deletion, which effect his self-esteem, communication, behaviour, academic performance and quality of life. We introduce alternative method in speech-language session using multi-therapeutic techniques in therapy setting with structural behavioural rules amid ADHD child, who is struggling to produce a clear word or sentence and minimise speech default.

Methods: The study investigated a child aged 6.3 Yrs. in first grade bilingual American School. The program settled for three times weekly in the clinic with collaborate with home and school setting to improve his speech construction and behaviour as well.

Results: The outcomes of the multi-therapeutic programs proved that ADHD child he involved in the program had made greater improvement in using significant speech production in bilingual.

Discussion: This study gives a great opportunity for more collaborative researches to assimilating the therapy goals and orthodontist to collaborate on a therapy plan or timeline. Furthermore, we open a wide discussion, if there is a gene defect-affect some children with ADHD, which led to congenital missing teeth and severe articulation in many cases?

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P217 A Multi Therapeutic Methodologies to Improve Specific Language Deficit in ADD Children

DR. Tahany Ahmad, Assistant Professor Enas Salem

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Introduction and objectives: Some Children with ADD/ADHD likely to have some language problem as remembering daily events, recalling previous occasions and with poor verbal organization to talk about where, when, why it happened. We tried through this study to dived the therapeutic program between Clinician and Parent to solve the language defects during speech-language session using multi therapeutic methodologies to improve the specific language deficit and involving parents for particular activities to help their children to build self-confidence and awareness toward self, others and environment.

Methods: The study established to solve specific language problems to group of 30 students aged 5:6 Yrs. In Kindergarten bilingual Arabic/English American Schools. The program takes two-per week session, in six months. We focus in the Clinician / School & Parent multi therapeutic approach which based-evidence assessment and treatment process on five intervention strategies in ADD girl having difficulties to Focus, processing speed, modulating emotions, organizing and recall events. Using variations of indoor and outdoor activities thru technique (picture your life) as auxiliary tool.

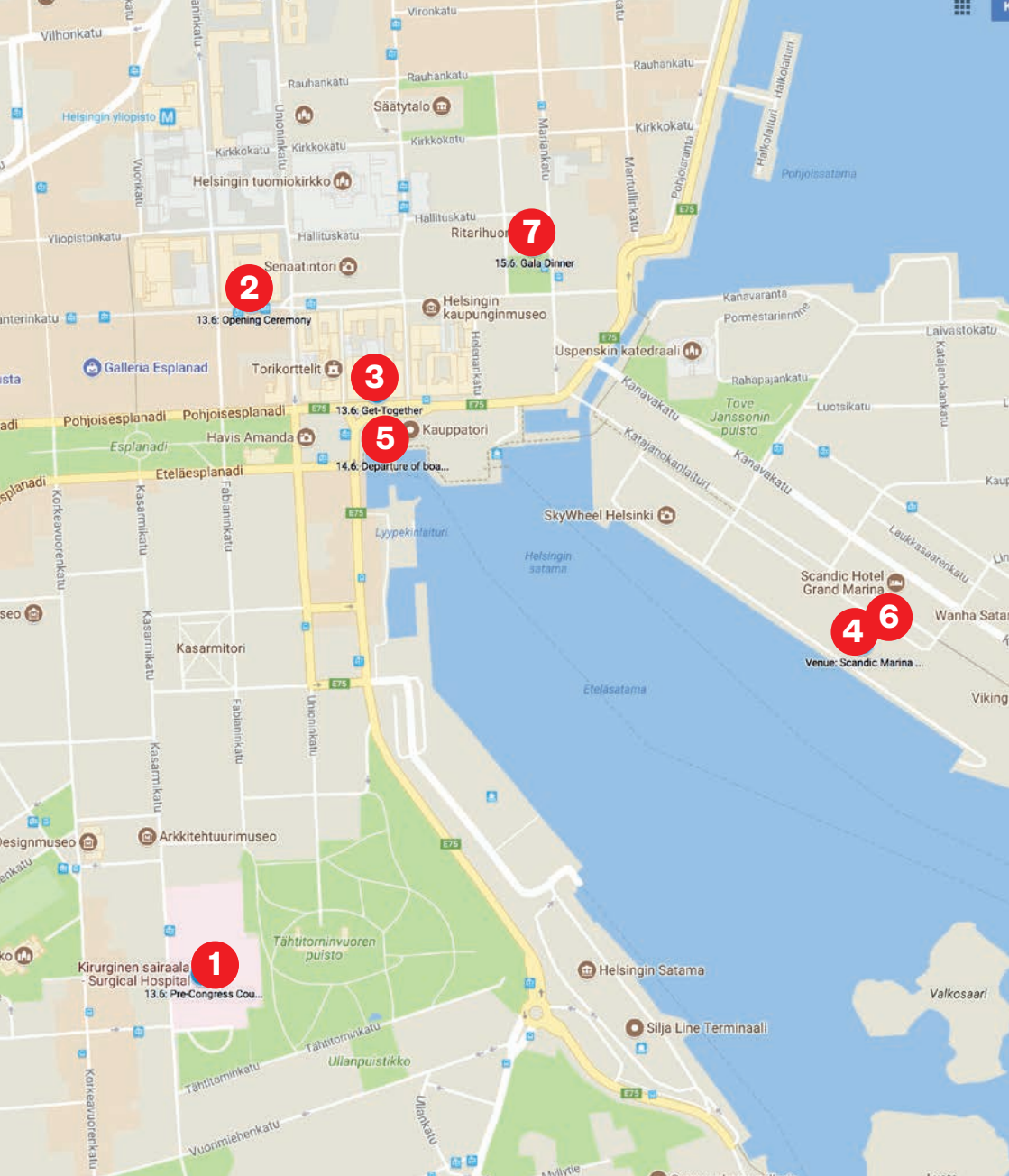
Results: The outcomes of the multi therapeutic methodologies showed significant improvement in the ADD children that involved in the program; both family members and schoolteachers notice sensible change in the child behaviour and language use.

Discussion: The important finding from this research that collaboration between School & Parent by using variety of intensive traditional and untraditional multi therapeutic methodologies provided during the speech –language sessions helped the children to improve concentration, processing speed and recall daily events.

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POSTERS



VENUE AND LOCATION OF EVENTS

- | | |
|--|---|
| 1 13.6: Pre-Congress Course Venue | 4 Venue: Scandic Marina Congress Center |
| 2 13.6: Opening Ceremony | 5 14.6: Departure of boat to Evening Concert, Option 1 |
| 3 13.6: Get-Together | 6 14.6: Departure of buss tour, option 2 |
| | 7 15.6: Gala Dinner |