

The meeting of the EFAS work group on school age hearing screening (SHS) took place Friday 13 Nov 2015 8:30h-16:15h in the meeting room of Experimental ORL research group of the department of Neurosciences on the 7th floor of O&N2 building at Campus Gasthuisberg, Herestraat 49/721, 3000 Leuven, Belgium.

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Aim of this EFAS Workshop & some history

At the EFAS 2015 congress in Istanbul (27-30 May 2015), an overview of the work of the EFAS-WG-SHS was given at the EFAS General Assembly (GA) and SHS related contributions were presented.

Summary of EFAS-WG-SHS report at GA:

- Follow-up on report EFAS WG on pre-school and school-age hearing screening (SHS) 2014: decision made for concrete action and collaboration, along 2 research lines:
 - Q1: Development optimal screening methodologies
 - Q2: Investigation evidence for necessity of SHS

Status: 3 partners have research plans and resources for pilot study: Wouter Dreschler (Q1), Theresa Pitt (Q2), Jan Wouters (Q1&Q2)

- Concrete action: research project (own resources) with interested partners (inside and outside WG)
 - Development of optimal screening methodologies for SHS: child friendly DTT, Dutch Earcheck, comparison with Sound Earcheck, at different ages, ...
 - Gather evidence for necessity SHS: comparison of SHS data with NHS databases, ...This pilot study can be step towards larger international project

Before EFAS 2015, many SHS-WG-colleagues informed that in future they would not be part of the WG and prefer to leave their place to somebody else, or that they could not be present at EFAS 2015 in Istanbul. Because not enough EFAS WG members were present, it was decided to postpone the meeting during EFAS 2015 and to organize a separate meeting in the period September to December 2015. Many colleagues showed interest, a few interested to collaborate on 1 or 2 of the very concrete research tasks and take part in the EFAS-WG-SHS.

The present Workshop of the EFAS-WG-SHS was organized in Leuven on 13 Nov 2015, with two major themes of study:

- Q1: Development of optimal screening methodologies for SHS
- Q2: Investigation of evidence for necessity of SHS

Program and agenda of meeting

Thursday 12 Nov 2015

19:00 meeting at dinner in restaurant “De Klimop” <http://www.deklimopleuven.be/> ,
in same building as hotel <https://hotelmillecolonnes.be/en/>

Friday 13 Nov 2015, 8:30-11:00, HP5

Status and plans of SHS in the respective countries

8:00 pick up 6 hotel guests to go to the meeting place

8:30 introduction

Jan Wouters (Leuven)

8:40 presentation per country of status and plans in the field of SHS: Part 1

Vinay Nagaraj (Norway)

Tytti Willberg (Finland)

Maciej Ludwikowski (Poland)

Limor Lavie (Israel)

10:30 break

10:50 presentation per country of status and plans in the field of SHS: Part 2

Sam Denys (Flanders)

Wouter Dreschler (The Netherlands)

Friday 13 Nov 2015, 12:00-16:00, meeting room ExpORL

Status and plans of SHS in the respective countries

12:00 presentation per country of status and plans in the field of SHS: Part 3

Jan de Laat (The Netherlands)

Theresa Pitt (Ireland)

12:50 lunch

13:30 Technological issues and new developments

Michael Hofmann (Flanders)

Jan de Laat (The Netherlands)

Collaboration?

14:20 discussions

how can a future collaboration along the 2 themes Q1&Q2 look like in concreto?

preparation plans of concrete collaboration along the 2 major research themes Q1&Q2

15:40 summary of collaboration action points and time-line of work items

16:15 end of meeting

Report of meeting

Participants:

VN= Vinay Nagaraj (No); TW= Tytti Willberg (Fi); TP= Theresa Pitt (Ir); JL= Jan de Laat (NI); LL= Limor Lavie (Is); ML= Maciej Ludwikowski (Po); WD= Wouter Dreschler (NI); Leuven (Fl), FC= Frans Coninx (Ge)

Results of discussions

Q1 methodology

Current methods for SHS

TONE audiometry different protocols by far most used, also OAE, SPIN

What is minimal age we focus on for SHS?

At or just before school entry, e.g. at an age of 5 years (Fi, Ge, Ir, NI, (No)) and 6 years (Fl, Is, No, Po). At a younger age than school entry, screening based on risk analysis or questionnaires is a possibility.

In what test environment are children at this age screened?

In the clinic (Fi, No), or in quiet room in the school or a school-like environment (Fi, Fl, NI, Po, Ir, Is).

Arguments for SPIN as a new method?

A SPIN test has advantages over OAE and TONE audiometry in these conditions:

low cost

- automated, not dependent on stress of test leader
- ecological validity
- easy translation across countries

In Flanders, the low cost, automated and ecological validity were the most important arguments for the introduction of SPIN as a screening instrument for SHS.

Is it important to know what kind of hearing loss: conductive vs sensorineural?

Up to age of 7 years, the conductive component needs to be known besides the sensorineural component. Above an age of 7 years, the focus is on sensorineural, and the incidence of continuing conductive hearing loss is low.

How to get info about conductive loss with SPIN?

Additional measurement of detection of SPIN, or SPIN at second low noise level

We opt for adding at least one common test together with our own test protocol (mostly mandatory by official country regulations) and apply in a pilot study in each country, on a local/regional scale but ensuring enough statistical power to learn and compare

What SPIN test shall we investigate further for across-country SHS application?

- AAST (FC)
- DTT (Leuven)
- ChildrenPictureT (JL&WD)
- SoundT (JL&WD)

What information about test material and procedures is minimally needed for evaluation?

- quantitative data on
 - Test-retest reliability
 - distribution of thresholds
- precise test procedure
- availability in different languages

What is the optimal transducer for SPIN?

At the moment, different transducers are used for SPIN tests. To compare, the following information is needed:

- transducer, headphone types
- quantitative data on attenuation, frequency response, harmonic distortion

Q2 evidence/incidence

Country / partner in EFAS-WG-SHS	NHS (%)	SHS (%)	Criterion (dB HL)	Pub
Fi / TW				
Fl / Leuven	0.2			
Ir / TP	0.15	4-5 or 7-8	25	?
Is / LL	0.35-0.5	7	20	?
Nl / JL&WD	0.4	10	35	X
No / VN	0.1	0.2	40	X
Po / ML	0.3	10-14 (500Hz)	20	X

The table above contains preliminary information from the presentations. To provide reasons to persuade officials and to use in the argumentation for a more extensive study, we require

- an inventory of the already available information, with descriptions of the different data analyses
- pilot studies in some countries on a regional or county scale; based on typically ~1000 children with records tracked from NHS to SHS, with whatever the used screening methodology is for SHS

Action points

21 Nov 2015

- Leuven: Q1&Q2: Google drive (G) for EFAS-WG-SHS members

01 Dec 2015

- All: PDF of presentations on G
- VN: Q1: 2 pubs and info about NEWT (New Early Warning Test) on G
- All: Q2: publication references (see table above) and copy as well as documentation about incidence data on G

01 Jan 2016

- All: Q1: relevant info about test procedures on G
- All: Q2: provide info about distributions of whole population tested
- Leuven: Q2: inventory of available published incidence data

01 May 2016

- Leuven: Q1: make proposal procedure/plan
- JL&WD, FC, Leuven: Q1: make the selected SPIN tests ready for other (partner) languages
- TW, TP, JL&WD, Leuven: Q2: make concrete plan for Q2 in own country

The Workshop ended at 16:15h on 13 Nov 2015

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