



**Special Olympics  
Healthy Hearing program**

Melina Willems  
melina.willems@artevelddehs.be

Lecturer in Audiology  
Artvelde University Applied Sciences  
Ghent / Belgium

Global Clinical Advisor  
Special Olympics  
Healthy Hearing Program

1



**Special Olympics**

- International programme for individuals with an intellectual disability:
  - organizes athletic competitions
  - improve health and fitness



2



**Special Olympics**

- 170 countries
- 4.9 million athletes
- 32 Olympic-style sports
- International, Regional, National, Local Games



3

Special Olympics  
**Healthy Athletes®**



Special Olympics <b>Opening Eyes®</b>	Special Olympics <b>Special Smiles®</b>	Special Olympics <b>MedFest</b>
Special Olympics <b>Strong Minds</b>	Special Olympics <b>Health Promotion</b>	Special Olympics <b>FUNfitness</b>

4

Special Olympics  
**Healthy Athletes®**



**Objectives:**

- To screen
- To signal problems
- To refer if necessary
- To advise

the athletes / parents / coaches / caregivers

5

Special Olympics  
**Healthy Athletes®**



**Objectives:**

- To improve, through better health and fitness, each athlete's ability to train and compete in SO
- To improve access and health care for people with ID
- To train and educate health care professionals and students about the special needs of, the care for, and how to communicate with people with ID

6

Special Olympics  
**Healthy Hearing**



- Objectives
  - Screeners = volunteers:
    - professionals
    - students in health care
  - audiologists, ENT-specialists, SLP, ...
- trained to use a strict screening protocol



7

## PREVALENCE DATA

- Special Olympics Europe Eurasia (SOEE):
  - 15.363 athletes with ID
  - 8 - 89 years
- Literature (ID)
- General population (project AUAS):
  - 1.000 non-professional athletes
  - matched in age and sex to SO-athletes
  - SO screening protocol

*Ethics Committee University of Ghent:  
EC 115-2017/mf; EC 2016/0461; EC 2016/0988; EC 2016/0989*

8

## OTOSCOPY



9

## Excessive ear wax

	Prevalence excessive ear wax
Special Olympics	40.3%
Literature ID	28-42%
General population	11.0%

*den Houdijker-Schakel et al., 2009;  
Crandell & Roeser, 1993*

10

## Foreign objects in ear canal



*Balbridge & Andrasik, 2010*

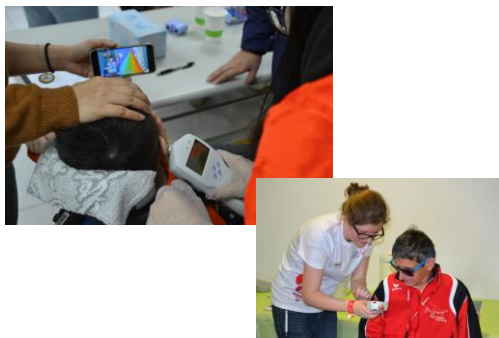
11

## OTOACOUSTIC EMISSIONS



12

## TYMPANOMETRY



13

## Middle ear problems

	Prevalence middle ear problems
Special Olympics	30.1%
Literature ID	40%
General population	7.2%

*Browning & Gatehouse, 1992; Daly, 1991; Hannula et al., 2012; WHO, 2004*

14

## PURE TONE AUDIOMETRY



15

## Hearing loss

	Prevalence hearing loss
Special Olympics	27%
Literature ID	36%
General population	11.7%

*Davis 1989; De Bal 1998; D'Hooghe & De Leenheer 2009; Meuwese-Jongejeugd et al. 2006; Quaranta et al. 1996; Wilson et al. 1999*

16

## Hearing loss

- Hearing loss (un)known:
  - 1 out of 5 athletes can NOT estimate their hearing correctly
- Permanent hearing loss and hearing aids:
  - 2% of athletes have hearing aids
  - = 12% of athletes that are eligible for hearing aids
  - only 37% wears their hearing aids (frequent: blocked ear moulds, flat batteries, technical malfunction, ...)

17

## CHECK-OUT

- Quality check
- Follow-up recommendations
- General advice



18

EFAS WG AID:  
European Federation of Audiology Societies  
Working Group Audiology & Intellectual Disability

AUDIOLOGICAL CARE	PERSON WITH ID IN GENERAL	PERSON WITH DOWN SYNDROME	PERSON WITH ID ELIGIBLE FOR HEARING DEVICE
EARWAX REMOVAL	Annual	2x/ year	2x/ year
HEARING SCREENING	Neonatal Hearing Screening	Neonatal Hearing screening	2-4x/year < age 6
	Annual screening < age 6	2x/ year < age 6	
	Every 3 years from age 6 to 18	Every 2 years from age 6 to 18	2x/year ages 6 < 10
	Every 5 years from age 18 to 50	Every 3 years from age 18 and 35	
	Every 3 years > age 50	Annual > age 35	Annual hearing evaluation > age 10
Annually if 8h/ day noise exposure (>75dBA)			

www.efas.org

## General referral

	Prevalence general referral
Special Olympics	58.7%
General population	22.8%

19

20

## CONCLUSIONS

Ear and hearing problems in people with ID:

- more common than in general population
- most unknown / underestimated
- influence on QoL: sports and daily life
- influence direct environment



21

## CONCLUSIONS

People with ID can be tested IF:

- see the abilities (not disabilities)
- communication
- adapted test methods
- take time they need/deserve
- train health care students and professionals

THEN:

- hearing (and vestibular) screening well accepted by people with ID

22

## CONCLUSIONS

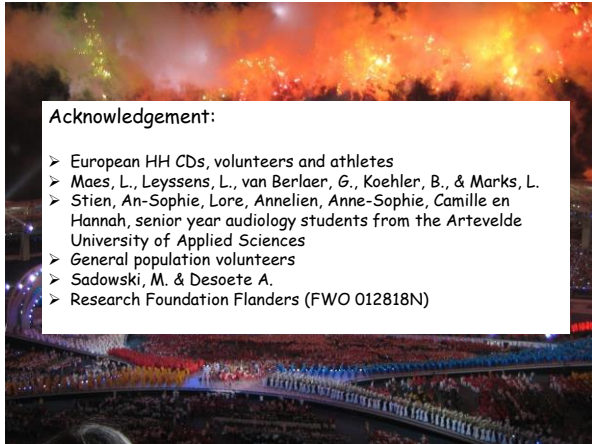
- SO HH programme = first step, but only for SO athletes + only screening
- Community based regular universal hearing screening
- Structured follow-up (adapted assessment, treatment and guidance)
- Prevention

23



WORLD SUMMER GAMES 2023  
BERLIN

24



25



26