

Special Olympics

Healthy Hearing



VOLUNTEER TRAINING MANUAL



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*For questions or support, please contact the
Special Olympics International team at:
healthyhearing@specialolympics.org*

Special Olympics
Healthy Hearing



Dear Healthy Hearing Volunteer,

We are delighted to know you are interested in the Special Olympics Healthy Hearing Program. The purpose of this manual is to provide you with the necessary information to assist you in planning and running a successful Healthy Hearing event.

This manual provides general information about Special Olympics and the Healthy Athletes Program, followed by a detailed discussion of the Healthy Hearing Program. This manual outlines general guidelines that apply to all volunteers, including protocols that are specific to Healthy Hearing. Please review this manual as you prepare for a Healthy Hearing event.

Kind regards,

Healthy Hearing

Special Olympics

Special Olympics (SO) transforms lives through the joy of sport, every day, everywhere. It is the world's largest sports organization for people with intellectual disabilities with approximately 5 million athletes in more than 170 countries, and over a million more volunteers and supporters. It also is a global social movement.

The Special Olympics Oath

"Let me win, but if I cannot win, let me be brave in the attempt."

The Mission

The mission of Special Olympics is to provide year-round training and athletic competition in 32 Olympic-style sports for children and adults with intellectual disability. The goal is to provide opportunities to develop physical fitness, demonstrate courage, experience joy and participate in the sharing of gifts, skills and friendship with their families, other SO athletes and the community.

The Benefits

Individuals who compete with Special Olympics develop improved physical fitness and motor skills. It is through the power of sports, that people with intellectual disability discover new strengths, abilities, skills and success. The athletes find joy, confidence and fulfillment, on the playing field and in life. They inspire people in their communities and elsewhere to open their hearts to a wider world of human talents and potential.

The Spirit of Special Olympics

The spirit of Special Olympics exceeds geographical borders, nationality, political opinion, sex, age, race and religion and promotes the talent and courage of athletes.

Special Olympics History

Special Olympics began in 1968 when Eunice Kennedy Shriver organized the first SO Games in Chicago, Illinois, USA. The idea was born when Mrs. Shriver held a summer camp for young people with an intellectual disability in her own backyard. She saw what the abilities of these children were in sports and other activities, against all the expectations of different experts. Since then, millions of children and adults with intellectual disability have participated in SO.

Worldwide

There are over 170 countries with recognized SO Programs - and approximately 5 million athletes, with as many as 80,000 events and competitions annually. These programs expand continuously. SO is one of only two organizations- authorized by the International Olympic Committee, to use the name "Olympics".

Changing Attitudes

SO is the leading voice in raising awareness about the abilities of people with intellectual disabilities. SO fights negative stereotypes and misperceptions, educating people young and old about the skills and gifts of our athletes. SO provides educational experiences for coaches, volunteers and teachers to enhance their knowledge and show them how the SO experience can transcend all aspects of their lives.

About Healthy Athletes

Special Olympics Healthy Athletes® is designed to help Special Olympics athletes improve their health and fitness. The goal of Healthy Athletes is to improve each athlete's ability to train and compete in Special Olympics as well as other sports activities.

The **key objectives** of Special Olympics Healthy Athletes are to:

- Improve access to care at event-based and other health screening clinics.
- Make appropriate referrals for follow-up to community health professionals.
- Train health care professionals and students about the needs of people with intellectual disabilities
- Collect, analyze and disseminate data on the health needs of people with intellectual disabilities.
- Advocate for improved health policies and programs for people with intellectual disabilities.

Health screenings are conducted at World Games as well as local, State and National Games, and occasionally at special events. Healthy Athletes screenings have provided free care to hundreds of thousands of Special Olympics athletes. All Healthy Athletes screening areas maintain confidentiality of each athletes' health information. Screening data are aggregated and assessed to improve individual athlete health, and to assist in policy recommendations and advocacy for improved health care for Special Olympics athletes around the world.

The Healthy Athletes Disciplines are:

- Lions Clubs International Opening Eyes® (started in 1997)
- Special Smiles® (started in 1997)
- FUNfitness (started in 1999)
- Healthy Hearing (started in 2000)
- Health Promotion (started in 2000)
- Fit Feet (started in 2003)
- MedFest® (started in 2007)
- Strong Minds (started in 2017)



Healthy Hearing Program

What is Healthy Hearing?

Healthy Hearing (HH) is part of the International SO HAP. SO athletes can have a hearing screen without any cost and without any obligation for further treatment.

The HH-program was founded in 1999 by Dr. Gil Herer, Ph.D., CCC-A. The objectives of the program are:

- to research the prevalence of ear problems and hearing loss in athletes who compete at Special Olympics events;
- to inform the athletes, their parents, their coaches or caregivers about the detection of possible ear and hearing problems and to recommend follow-up as needed;
- to advise the athletes, their parents, their coaches, their caregivers about the necessity of regular ear and hearing screening;
- to offer health care professionals and students in health care the opportunity to work with the athlete group and so learn or improve their practical skills.

Healthy Hearing Screening Protocol

The HH screening protocol is a strict protocol that is used worldwide. All athletes will go through check-in, at least two stations and in some cases as many as five screening stations. Check out is the final station for all athletes. At some events, additional services are available depending on the athlete's need and available time. The goals and the specific procedures per station are explained in this manual.

Who screens at Healthy Hearing?

The clinical volunteers are audiologists, ENT-specialists, speech language pathologists, teachers of the deaf, and physicians (medical doctors). Students in audiology and speech language pathology, as well as medical students can help under the supervision of a clinical volunteer. Non-clinical professionals can volunteer to help at check-in, guide athletes through the stations and input the data into the HAPs database. All HH volunteers are trained and supervised by a Healthy Hearing Clinical Director (HH CD). The HH CD is an audiologist or ENT-specialist that received training at a Special Olympics Train-the-Trainer (TTT).

What information is given to the athlete?

A screening form is used to document the “pass” or “no pass” results at every screening station. There is a section on the form to write the athlete’s answers to some ear-related questions, and a space to write down any useful comments. At the check-out desk every athlete receives his screening results and, if necessary, follow-up recommendations. Also, general advice for regular ear and hearing screening is given. The individual findings and the recommendations are written down on a form the athlete takes with them. The results are not only shared with the athlete, but also with the athlete’s coach, caregiver or family.

How long does a screening take?

The screening process, from registration to check-out, takes about 10 to 30 minutes per athlete, depending on the number of screening stations the athlete is required to complete. On some occasions when there are waiting lines or when the athlete may need further instruction to complete the screening, the process may take longer.



General Guidelines

- ✓ We talk about “intellectual disability”, not about mental handicap, mental retardation.
- ✓ We talk about “athletes”, not about people with an intellectual disability or handicap.
- ✓ Always talk directly to the athletes, make eye contact, introduce yourself, ask about their name, their sports, their competitions. Establishing rapport is important for the athletes so they feel at ease and are more likely to perform well during screening.
- ✓ Explain to the athlete at every screening station what you will do, so the athlete knows what to expect.
- ✓ If the athlete speaks another language, still talk with the athlete. Use the few words you know in that specific language, otherwise use your own language or English at International events.
- ✓ If something important needs to be explained, and you don’t speak the athlete’s language, try to make sure a coach, another volunteer or a translator is available to explain this to the athlete.
- ✓ If an athlete doesn’t feel well, contact the local first aid service or medical service. The HH CD has the necessary phone number.
- ✓ At international events, athletes like to trade pins or badges. If you have some pins at home, don’t forget to bring them with you.
- ✓ Every day, each volunteer must check-in at the “volunteer registration desk”.
- ✓ Credentials must be worn during the screening and HAP T-shirt must be worn during the screening, if provided.
- ✓ Within SO, everybody is addressed by their first name. No surnames or titles (doctor, professor, mister, ...) are used.
- ✓ Every morning the volunteers are introduced to each other, tasks are divided, supervisors are identified.
- ✓ Breaks and lunchtime are scheduled to ensure there are always enough volunteers present for screening.
- ✓ Everybody is required to wear gloves at the first 3 screening stations (otoscopy, otoacoustic emissions and tympanometry), and to change gloves before starting to screen a new athlete. This ensures you protect yourself and the athletes.
- ✓ The plastic ear speculi of the otoscopes and the foam ear tips used for otoacoustic emissions are thrown away after every athlete. The tympanometric ear tips are re-used after disinfection.
- ✓ Disinfect the tympanometric ear tips and the ENT-material regularly as required so that supplies are constantly available for use.
- ✓ Keep the screening area clean and tidy. Don’t put cans, lunch boxes etc. on the screening tables. Dispose all garbage in one of the many waste baskets spread over the screening area.
- ✓ Change the small garbage bags that hang on almost every table in the screening area, when necessary. Throw the small bags in a big garbage bag and hang a new small bag in the same place.
- ✓ If one of the screening devices doesn’t work correctly, attach a “defect” note onto the unit, continue screening the athlete with another unit and check the defective unit fully once you have time. If you can’t solve the problem yourself, inform the supervisor about the defect.
- ✓ Ask for help if necessary. Some volunteers have a lot of experience with the athletes and/or this specific screening process. Take this opportunity to learn from them.
- ✓ Make sure everything on the screening form is completed at each screening station. Always start by writing down your own first name in the box on the screening form so that any queries about the athlete’s screening results can be traced back to you.
- ✓ It’s possible that there will be waiting lines for screening. Non-clinical volunteers can keep track of athlete flow – which athlete was first.
- ✓ At times, because of the way athletic events are scheduled, there may be screening down times. Non-clinical volunteers can approach coaches about bringing teams to the HH-venue.
- ✓ Screening is for athletes. Non-athletes, like coaches, family members, other volunteers, are not our target group. We can screen them when there are no athletes to screen.

Station 1: Check-in



Goal:

- ✓ Take note of some general information on the athlete e.g., name, age, based on their credentials.
- ✓ Ask the athlete some questions regarding their hearing. These answers will be compared with the screening results.

Position: The athlete stands or sits in front of the volunteer on the other side of the table.

Procedure:

- ✓ Copy the information from the “credentials” (= identification badge) of the athlete on the screening form. At some larger events, this information will appear automatically on the printed screening form after scanning the athlete’s credentials.
- ✓ Ask the athlete (not the coach/parent) the questions on the screening form, in the language of the athlete, if possible.
- ✓ The screening form is given to the athlete. A second volunteer guides the athlete to Station 2.

Station 2: Ear Canal Screen / Otoscopy



Goal:

- ✓ Check the ear canal for excessive ear wax or abnormal findings e.g., atresia.
- ✓ Visualize and interpret the ear canal and tympanic membrane appearance.

Materials: Handheld otoscope with plastic ear speculi (2 sizes) or a light source on a headband with metal ear speculi (3 sizes), or, as an extra, a video-otoscope.

Position: The athlete sits down, the volunteer stands up, or sits down on a stool with wheels.

Procedure:

- ✓ Explain the procedure to the athlete. Show the athlete by shining light on your hand and/or their hand.
- ✓ Wear gloves. Perform otoscopy, ear by ear. Use same speculum for both ears, unless visible infection or blood in first ear.
- ✓ Take note of the results on the screening form, recording each ear separately.
- ✓ Throw away the plastic ear speculum after every athlete or keep the metal ear speculum in a separate box so they can be disinfected / sterilized at regular times.
- ✓ Guide the athlete to Station 3 (OAE or Otoacoustic Emissions) personally, or to a volunteer who will help them.

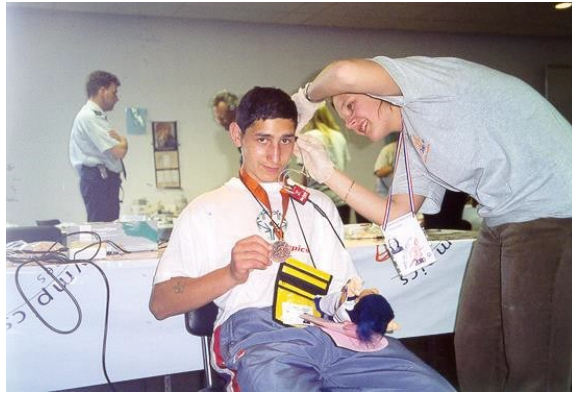
Note of results:

- ✓ Document if ear wax is present in the ear canal or not:
- ✓ Minimally blocked = ear drum > 50% visible (= PASS)
- ✓ Partially Blocked = ear drum ~ 50% visible (= REFER)
- ✓ Blocked = ear drum < 50% visible (= REFER)
- ✓ Note: If there are any abnormalities of the pinna, in the ear canal or at the ear drum, check the appropriate boxes under "extra otoscopic findings". The Clinical Director will decide if it is necessary to refer. If the Clinical Director decides that it is necessary to refer for anything other than ear wax removal, check the appropriate referral box.

Next step:

- ✓ After otoscopy, all athletes continue to station 3 (OAE), regardless of results, unless contra- indication.

Station 3: Otoacoustic Emissions



Goal: Objective hearing screening.

Material: Distortion Product Otoacoustic Emissions (DPOAE)-screening unit with foam ear tips in 3 different sizes.

Position: The athlete sits down, the volunteer stands up.

Procedure:

- ✓ Wear gloves
- ✓ Explain the procedure to the athlete. Let the athlete feel the foam ear tip if they want to, by pressing it softly on their hand.
- ✓ Perform the OAE screening in each ear.
- ✓ If hearing screening with OAE is possible, write down the screening results on the screening form ("Pass" or "No Pass").
- ✓ If hearing screening with OAE is not possible, check the box "Unable to test" and also one of the boxes which explains why it was not possible.
- ✓ Throw away the foam ear tip after every athlete.
- ✓ Depending on the screening results, the athlete will be guided to the check-out desk or to Station 4 (tympanometry):
 - "Pass" in both ears = check-out
 - "No Pass" in one or both ears = proceed to Station 4
 - "Unable to test" in one or both ears = proceed to Station 4

Note of results: The result can be read on the screen of the screening unit ("pass" or "refer"). Take note of this result on the screening form ("pass" on the screening unit = "Pass" on the screening form; "refer" on the screening unit = "No Pass" on the screening form).

Station 4: Middle Ear Screening with Tympanometry



Goal: Objective middle ear screening

Materials: Tympanometry with re-usable ear tips in different sizes. A screening tympanometer like the Otowave from Amplivox, or any diagnostic tympanometer can be used.

Position: The athlete sits down, the volunteer stands up.

Procedure:

- ✓ Wear gloves.
- ✓ Explain the procedure to the athlete. Let the athlete feel the ear tip if they want to by pressing it softly on their hand.
- ✓ Perform the tympanometry in each ear.
- ✓ If middle ear screening with tympanometry is possible, write down the screening results on the screening form ("Pass" or "No Pass").
- ✓ If middle ear screening with tympanometry is not possible, check the box "Unable to test" and also one of the boxes which explains why it is not possible.
- ✓ Keep the used ear tip in a separate labelled box so they can be disinfected / sterilized at regular times.
- ✓ Guide the athlete to Station 5 (pure tone audiometry), regardless of the tympanometry results.

Normative data for tympanometry:

For standardization, the following normative data for tympanometry ("The Rule of 2") need to be used:

- ✓ "Pass" = admittance between 0.20 and 2 mmho
middle ear pressure between +20 and -200daPa ear canal volume between 0.60 and 2 ml
- ✓ "No Pass" = type B (= flat)
type C (= under pressure) with middle ear pressure more positive than +20 daPa or more negative than -200 daPa
type As with admittance < 0,20 mmho
type AD with admittance > 2 mmho ear canal volume < 0.60 ml or > 2 ml

Note of results:

Take note of the results on the screening form for each ear. The final result depends on the numeric data compared to the normative data:

- ✓ **"Pass"** = all values are within the values of the normative data
- ✓ **"No Pass"** = type B-tympanogram or at least one of the numeric results are outside of the normative data
- ✓ **"Unable to test"** = if middle ear screening with tympanometry is not possible

Comments:

- ✓ If one of the screening tympanometers from Special Olympics are used – the Otowave from Amplivox- than a tympanogram shows a **"Pass"** if the peak from the tympanogram is within the adapted normative square on the screen AND ear canal value was within normal limits. If the tympanogram doesn't show a peak (type B), or if the peak is outside of the normative square, then it is a **"No Pass"**.
- ✓ The screener needs to use these adapted tympanometric normative data ("Rule of 2") but can make a referral based on professional experience. If there are questions about the results, ask the Healthy Hearing Clinical Director.
- ✓ If an athlete has a "No Pass" on tympanometry in one or both ears, but all the other screening results are normal, the athlete may not be referred to a specialist. In this case, referral to a specialist is only necessary if the clinical volunteer (audiologist or physician) recommends it (e.g., results on otoscopy + tympanometry show an acute infection).
- ✓ If middle ear screening with tympanometry is not possible (**"Unable to test"**), the athlete will not be referred for middle ear problems based on lack of tympanometry results alone.

Next step:

- ✓ After tympanometry, all athletes continue to station 5 (Pure Tone Audiometry), regardless of results.

Station 5: Pure Tone Audiometry Screening



Goal: Subjective hearing screening

Materials: Pure tone audiometer with noise attenuating headphones. There is not a specific manufacturer of the audiometer that needs to be used. The unit should be calibrated at least once a year, and noise attenuating headphones should be used. Some toys or adapted materials for play audiometry can be helpful if needed to facilitate screening in athletes.

Position: The athlete and the volunteer both sit down at a table. The volunteer needs to see the athlete's face for observation of facial expressions and general body language. The athlete can look at the volunteer as long as they can't see the controls being used on the test panel of the audiometer.

Procedure:

- ✓ Test frequencies: 2000 and 4000Hz (ear by ear)
- ✓ Intensity level: 25dBHL = "pass"
- ✓ Interrupted (pulsed) tones
- ✓ Screening procedure: starting level = 50dBHL → 35dBHL (if response at 50dBHL) → 25dBHL
- ✓ Requested response = raise hand; play audiometry if needed
- ✓ Short training and/or conditioning if needed
- ✓ Disinfect headphones before usage with new athlete

Note of results:

PASS = reliable response at 25dBHL

→ check-out if 4x "pass" (both frequencies in both ears)

NO PASS = no (reliable) response at 25dBHL, or athlete refused testing

→ station 6

- ✓ If hearing screening with pure tone audiometry is possible, write down the screening results on the screening form for each test frequency ("Pass" or "No Pass").
- ✓ If hearing screening with pure tone audiometry is not possible, check the box "Unable to test" and also one of the boxes which explains why it is not possible.
- ✓ Depending on the screening results, the athlete will be guided to the check-out desk or to Station 6 (Pure Tone Threshold Test):
 - "Pass" in both ears for both frequencies = check-out
 - "No Pass" in one or both ears at one or both frequencies = proceed to Station 6
 - "Unable to test" in one or both ears at one or both frequencies = proceed to Station 6

Comments:

- ✓ Ask for assistance if needed to help condition an athlete or if results are not consistent.
- ✓ Station 5 and Station 6 can be separate stations but can also be combined. As soon as a "No Pass" on 1 of the 4 test frequencies is obtained, the volunteer can stop screening and start with pure tone threshold testing.

Station 6: Pure Tone Audiometry Threshold Testing



Goal:

Subjective assessment of type and degree of hearing, if hearing screening results with pure tone audiometry showed a “no pass” in one or both ears, at one or more test frequencies.

Materials:

A pure tone audiometer with noise attenuating headphones and bone conductor. There is not a specific type of audiometer that needs to be used, as long as the unit has been calibrated at least once a year and noise attenuating headphones are used. Some toys or adapted materials for play audiometry can be helpful to facilitate screening athletes.

Position: The athlete and the volunteer both sit down at a table. The volunteer needs to see the athlete’s face for observation of facial expressions and general body language. The athlete can look at the volunteer as long as they can’t see the control panel of the audiometer.

Procedure:

- ✓ Explain the procedure to the athlete, and the response that is expected.
- ✓ Wipe down the headphones and headband with medical wipes every time before they are used in a new athlete. Throw away the medical wipes after every single use.
- ✓ Test frequencies air conduction: 250, 500, 1000, 2000, 3000, 4000 and 6000Hz
- ✓ Test frequencies bone conduction: 250, 500, 1000, 2000, 3000, 4000 and 6000Hz
- ✓ Masking of the non-test ear if needed and possible.
- ✓ Interrupted (pulsed) pure tones (or warble tones if a more reliable response is achieved)
- ✓ The athlete will be asked to raise their hand every time they hear the sound, even when it is very quiet. If the athlete doesn’t understand what to do, or if the response is unclear, try to condition with play audiometry.
- ✓ A short training and/or conditioning phase might be necessary to facilitate the screening.
- ✓ Perform threshold testing, ear by ear.
- ✓ Write down the numeric thresholds on the screening form and add any useful comments.
- ✓ The athlete will be guided to the check-out desk.

Comments:

- ✓ Ask for assistance if needed to help condition an athlete or if results are not consistent.
- ✓ Test as many air and bone conduction thresholds as possible. If the results become unreliable, try to assess the minimum amount of test frequencies necessary for recommendations. If the air conduction threshold is $>25\text{dBHL}$, test at least one bone conduction threshold to determine the type of hearing loss.

Station 7: Check-out



Goal:

- ✓ Check if all parts of the screening form are completed (correctly) before data input (= quality control).
- ✓ Check screening results for follow-up care recommendations.
- ✓ Make individual follow-up care recommendations if necessary.
- ✓ Give general ear and hearing screening advice.
- ✓ Explain screening results, recommendations and general advice to the athlete, their coach, carer, or family.
- ✓ Complete screening form: "extra services provided at the event" and referrals.

Position: The athlete stands or sits in front of the volunteer, at the other side of the table.

Procedure:

The screening results are explained to the athlete, and if necessary, also the recommended follow-up care. Also, every athlete receives advice on regular ear and hearing screening. All information presented is written down on the HH recommendation form and given to the athlete.

About half of the athletes will receive follow-up care recommendations because of possible ear and/or hearing problems. A good recommendation can only be made if the athlete went through all their required screening stations and when all parts of the screening form are completed correctly.

- **Step 1 = every screener:**
 - ✓ Checks if screening form is completed correctly for their station.
- **Step 2 = Healthy Hearing Clinical Director or Supervisor**
 - ✓ Checks screening form before any recommendations are given or before data entry.
 - ✓ Checks if the athlete went to all necessary stations.
 - ✓ Checks if screening form is complete; if screening results are unclear then ask the volunteer who performed the screening (name can be found on the screening form) to check and/or complete the results.
 - ✓ Checks the necessity for swim plugs and/or hearing aid repair and maintenance.
 - ✓ Makes individual follow-up care recommendations, based on the screening results.
 - ✓ Completes the final part of the screening form: "extra services provided at the event" and "recommended follow-up care".

➤ **Step 3 = Clinical Volunteer at check-out**

- ✓ Completes the "Recommendation form":
 - Individual follow-up care recommendations, based on the HH CD or supervisor's recommendations on the screening form
 - General advice on regular ear and hearing screening, based on the guidelines.
- ✓ Explains the screening results and the individual recommendations to the athlete, their coach, carer and/or family.
- ✓ Explains the necessity of regular ear and hearing screening to the athlete.
- ✓ Gives the recommendation form to the athlete.
- ✓ Give a thank you present to the athlete for attending the screening, if available.
- ✓ Keep the original HH-screening form at the check-out desk.

Recommendation forms:

Every athlete receives a recommendation form in their own language whenever possible. This form contains the different screening tests done, the individual recommendations for follow-up care, and the general advice for regular ear and hearing screening. The original screening forms must stay at check-out for data entry.

There are 2 different recommendations forms:

- ✓ For athletes with clear ears and hearing screening pass results, who don't need any follow-up care recommendations (see page 19: Recommendation Form "Pass")
- ✓ For athletes with possible ear and/or hearing problems, who receive follow-up care recommendations (see page 20: Recommendation Form "No Pass")

Guidelines for follow-up care recommendations and general advice on regular ear and hearing screening can be found on pages 21, 22 and 23.

Recommendation Form "Pass":
No follow-up needed based on screening results.

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SCREENING SUMMARY

Athlete's Name

Special Olympics Event

Date

➤ **CONGRATULATIONS!** You **PASSED** your hearing screening in both

➤ **It is important to:**

- have your ears checked by a medical doctor for ear wax 1 / 2* times a year
- have a hearing evaluation by an audiologist / ENT-specialist every 1 / 3 / 5*

➤ **Services provided at the Special Olympics event:**

☒ Ear canal inspection

☒ Hearing screening

☐ Ear wax removal

☐ Middle ear screening

☐ Swim plugs

☐ Ear protection (noise plugs)

☐ Other:

ENGLISH

PASS FORM

HEALTHY HEARING PROGRAM SPECIAL OLYMPICS INTERNATIONAL

SCREENING SUMMARY RESULTS

Athlete's Name (print)

Special Olympics Event (print)

Date

➤ **THANK YOU** for attending Healthy Hearing screening.

You are advised to take further action as you **DID NOT PASS** your hearing screening.

➤ **You need to:**

- | | | |
|-------------------------------------------------------------------------------------|--------------------------------|-------------------------------|
| <input type="checkbox"/> See your medical doctor for ear wax removal | <input type="checkbox"/> Right | <input type="checkbox"/> Left |
| <input type="checkbox"/> See your medical doctor for possible middle ear problems | <input type="checkbox"/> Right | <input type="checkbox"/> Left |
| <input type="checkbox"/> See an audiologist / ENT-specialist for hearing evaluation | <input type="checkbox"/> Right | <input type="checkbox"/> Left |
| <input type="checkbox"/> See an audiologist for hearing aid evaluation | | |
| <input type="checkbox"/> Urgent follow-up needed | <input type="checkbox"/> Right | <input type="checkbox"/> Left |

Reason for Urgent follow-up: _____

➤ **It is also important to:**

- Have your ears checked by a medical doctor for ear wax 1 / 2* times a year
- Have a hearing evaluation by an audiologist / ENT-specialist every 1 / 3 / 5* year(s)

➤ **Services provided at the Special Olympics event:**

- ☒ Ear canal inspection
- ☒ Hearing screening
- ☐ Middle ear screening
- ☐ Ear wax removal
- ☐ Hearing aid fitting
- ☐ Hearing aid repair / maintenance
- ☐ Ear mold for hearing aid
- ☐ Swim plugs
- ☐ Ear protection (noise plugs)
- ☐ Other:

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Guidelines for follow-up care recommendations

- ✓ **Otoscopy:** “Partially Blocked” or “Blocked” ear canals in one or both ears
→ referral ear wax removal = “Ear wax removal required”
- ✓ **Otoscopy:** “Medical evaluation of ears needed for extra otoscopic findings” checked by Healthy Hearing Clinical Director / Medical Doctor in one or both ears (after visualization of an acute problem in the ear canal or at the ear drum)
→ referral for possible ear problem = “Medical Evaluation of Ears”
- ✓ **OAE:** “No Pass” in one or both ears
→ no referral → recommendation will depend on results on pure tone audiometry.
- ✓ **Tympanometry:** “No Pass” in one or both ears (no normal type A- tympanogram OR abnormal small or abnormal big ear canal volume OR type B-tympanogram) → referral for possible middle ear problems (unless no other referral is necessary) = “Medical Evaluation of Ears”
- ✓ **Pure Tone Audiometry:** “No Pass” on pure tone audiometry in one or both ears (response > 25dBHL at 2000 and/or 4000Hz)
→ referral to rule out hearing loss = “Audiological evaluation”

BUT, to avoid over-referral:

- ✓ If the only “No Pass” is on tympanometry, no referral is made, unless the Clinical Director or Medical Doctor decides that it is necessary.
- ✓ If there is a “No Pass” on pure tone audiometry for 1 or 2 test frequencies at 30dBHL (instead of 25dBHL), no referral for possible hearing loss is needed, unless the Clinical Director decides it is necessary.

CONDITION	URGENT REFERRAL TO EAR, NOSE, AND THROAT PHYSICIAN IF ...	PREVALENCE
Othematoma = hematoma auris	Visual inspection shows a purplish hard swelling of the external ear. Can result from hit on ear e.g., basketball	Sporadic
Foreign body in the ear canal	Visual inspection with otoscope shows foreign body e.g., peanut, hearing aid dome, cotton wool.	Sporadic
Otitis externa	Visual inspection with otoscope shows pink ear canal mucosa, if painful during inspection, or bleeding or moist/fungal spores in dead skin in the ear canal.	More common
Myringitis	Visual inspection with otoscope shows obvious infection (fever, red or bulbous ear drum) or if painful when flying, driving up and down hills	Sporadic
Acute otitis media	Visual inspection with otoscope shows obvious infection (fever, red or purple ear drum) or if painful when flying or driving over hills.	More common e.g., with a cold/sinus trouble.
Draining ear	Visual inspection (with otoscope) shows purulent flow in the ear canal of thin or thicker moisture.	Sporadic with perforation

General Advice on Regular Ear and Hearing Screening

Every athlete will receive individual recommendations for follow-up care and general advice for a regular check-up of their ears and hearing. The general advice is:

- ✓ Have your ears checked by a medical doctor for ear wax 1 / 2* times a year
 - ✓ Have a hearing evaluation by an audiologist / ENT-specialist every 1 / 3 / 5* year(s)
- * strike out as appropriate

The clinical volunteers at check-out needs to circle the frequency that is needed to have an athlete's ears and hearing checked. The other numbers need to be crossed out. The recommendations are made based on the following rules:

- An athlete, without Down syndrome, without hearing aid(s):
 - ✓ Ear wax: once a year
 - ✓ Hearing evaluation: every 5 years
- An athlete with Down syndrome, without hearing aid(s):
 - ✓ Ear wax: twice a year
 - ✓ Hearing evaluation: every 3 years \leq 35 years of age
every year $>$ 35 years of age
- Athlete with hearing aid(s):
 - ✓ Ear wax: Twice a year
 - ✓ Hearing evaluation: every year

The individual results as well as the specific recommendations need to be explained to the athlete as well as to the coach, carer and/or family.

Data Entry

All Healthy Hearing data are entered into a global database, owned by Special Olympics International, known as the Healthy Athletes System (HAS). The data are entered into the database at the event or closely after the event by volunteers. Before entering the data, all Healthy Hearing screening forms need to be checked by a trained HH CD. Once the data is entered, the HH CD as well as the National or State SO Program will receive a discipline specific report. The raw data of an event is owned by the State or National SO Program.

As data entry volunteers are usually not clinicians, it is very important to check all necessary boxes and write as clearly and neatly as possible on the HH-screening forms.



Acknowledgement

The Healthy Hearing Program wouldn't be possible without the many Healthy Hearing volunteers who, for the benefit of our athletes' health, give a part of their valuable time and experience. We are so excited to have you as part of the team! Thank you for your willingness to serve in this role!

Also, screening wouldn't be possible without the generous gifts of our sponsors.

With many thanks,
Healthy Hearing

Extra Station: Removal of Ear Wax and/or Foreign Body

Can be completed by clinical audiologists or ENTs

Goal: Dry removal of ear wax by an ENT, PCP, or Clinical Director.

Materials: Ear hooks, ear loops or micro forceps of different sizes.

Procedure:

- ✓ Wear gloves. The ENT, PCP, or Clinical Director tries to remove ear wax at the event, if needed and possible, and after the athlete has been informed and has agreed to this.
- ✓ A second volunteer helps if needed, reassures the athlete, writes down the findings on the screening form, and makes sure that each line is completed.
- ✓ Keep the used materials in a separate and labelled box so they can be disinfected / sterilized at regular times.
- ✓ Guide ALL athletes to Station 3 (OAE) or find a volunteer to do this.
EXCEPTION to proceeding to Station 3 is the presence of significant ear discharge or any other contraindication.



explain and show



remove



check



Note of results:

- ✓ Note if the ear wax / foreign body has been completely or partially removed by ear:
 - **Yes, completely** = ear wax has been completely removed
 - **Yes, partially** = ear wax has been partially removed
 - **Unable to remove** = ear wax removal has been tried, but was not possible at the event
 - **Athlete refused** = the athlete refuses ear wax removal at the event

Comments: If Program is conducting cerumen management

- ✓ Ask the Physician/ ENT/ Clinical Director for advice if needed. Make maximum use of this learning opportunity.
- ✓ Let the Physician/ ENT/ Clinical Director remove the ear wax if necessary and possible.
- ✓ Let the Physician / Clinical Director decide if referral for other than excessive ear wax is necessary or not.
- ✓ Use a video-otoscope, when available, to show the athlete or his coach the reason for referral.
- ✓ Contra-indications for further screening need to be written down clearly on the screening form. Excessive ear wax may not a contra-indication within this screening protocol, even if the ear canal is completely blocked.

Extra Station: Swim Plugs can be completed by clinical audiologists or ENTs



Goal: Free custom-made swim plugs for athletes that need them (perforation of the ear drum, tympanic tubes, mastoid cavity).

Materials: Otoscope with plastic ear speculi (2 sizes), cotton/foam balls with thread, pen light, instant swim plug material (2 colors), syringe, cutter knife, box or plastic bag to store swim plugs, hand mirror.

Position: The athlete and the volunteer both sit down, next to a table.

Procedure:

- ✓ Inform the athlete and their coach/family/carer about the need for swim plugs for water sports, when bathing, taking a shower, washing hair.
- ✓ Ask oral permission of the athlete and their coach/family to make free custom swim plugs at the event after informing them that this process will take an extra 15 minutes.
- ✓ Ask oral permission of the athlete and their coach/family to make free custom swim plugs at the event after informing them that this process will take an extra 15 minutes.
- ✓ Explain to the athlete the procedure of how swim plugs are made.
- ✓ Make the swim plugs. Write down the athlete's name on the box or plastic bag in which the swim plugs will be stored.
- ✓ Show the athlete the finished and inserted swim plugs with a hand mirror.
- ✓ Teach the athlete and their coach/family/caregiver how to deal with the swim plugs: when to wear, how to put in the ears, how to take them out, how to clean them, how to store them, difference between right and left swim plug.
- ✓ Check the box "Swim Plugs" on the screening form.

Comment:

If no swim plugs can be made at the event, but the athlete would benefit from swim plugs, recommend the athlete and coach/family to obtain swim plugs after the event by referring to a local audiologist. Explain the need for swim plugs.

Check the box "Swim Plugs" on the screening form.

Extra Station: Hearing Aid Fitting, Maintenance and Repair

Program can only provide hearing aid maintenance and repair services

Materials:

Program should secure necessary materials and supplies for basic maintenance and repair of different types of hearing aids e.g., listening tube, cleaning wipes and tools; replacement ear mold tubes and scissors, glue and threading tools or different sized domes, hearing aid hooks and microphone covers – all for common hearing aid models. Spare hearing aid batteries of different sizes e.g., 13, 312, 675.

Procedure: If Program is conducting hearing aid maintenance and repairs

- ✓ The volunteer at check in or a screener has informed one of the clinical volunteers that an athlete has their hearing aid(s) with them. The clinical volunteer asks the athlete, and if possible, also his coach/carer, for permission to check the hearing aids at the end of the screening.
- ✓ One clinical volunteer will check and carry out necessary maintenance of the hearing aid(s) at an optional station right before check-out/education station.
- ✓ Check the box “Hearing Aid Repair/Maintenance” on the screening form and write in the comment section on the screening form that the athlete’s hearing aids were checked.
- ✓ Take note of the name and identification number of the athlete.
- ✓ Clean the ear molds and the hearing aids. Check the hearing aid visually and with a listening device. Replace flat batteries and tubing, etc. if necessary and possible.
- ✓ If the athlete needs new ear molds, refer the athlete to local audiologist
- ✓ Explain to the athlete and his coach/family what you have done and what you advise.

Comment:

If there are no materials and supplies at the event for hearing aid fitting, repair or for making new ear molds, refer the athlete to their audiologist. Check the box “Hearing Aid Repair/Maintenance” “Hearing aid fitting” or “Replacement of Ear Molds” on the screening form.