

Protecting Young Children from Hearing Loss

Nydia Ntouda: On today's webinar, we have Alejandra Ullauri. She will officially introduce herself. Alejandra, you can take it away from here.

Alejandra Ullauri: Thank you, Nydia. Thank you, everybody, for joining us today. I'm so excited to be talking about this topic. My name is Alejandra Ullauri, I'm a bilingual audiologist. I serve at the National Center for Health, Behavioral Health, and Safety as a Hearing Screening Subject Matter Expert. And today, talking about hearing loss prevention is one of my passions. We do a lot of work, and we put a lot of resources to identify hearing loss early and to provide access to services to children who have hearing loss.

But I think that we're not talking enough about preventing hearing loss. I'm super excited to be here today. I'm excited and thankful about your interest in this topic. Thank you for joining us again. I want to start by saying that we share the vision of the World Health Organization. We want to live in a world in which no individual experiences hearing loss due to preventable causes. I'm going to share some statistics with you that are going to highlight these, and why it's so important to take action. To make sure that nobody has a hearing loss from preventable causes. Why? Because the sense of hearing is a key aspect of functioning at all stages in life. In early life, is very important for language development, for education, and so on. But the reality is that hearing is a key aspect of functioning at all stages of life throughout our life span.

I started telling you that luckily, in the US, we put a lot of resources into early detection and identification of hearing loss. Because we know that undiagnosed hearing losses can cause long lasting negative effects on a child's language development, social interactions, behavior, and education. Because of that, we have amazing programs such as newborn hearing screenings. Head Start programs are unique in the United States, providing hearing screenings to children between 0 and 5. We also have hearing screenings in the school age, I'm sorry. In the school system. Why? Because we know the negative effect that an undiagnosed hearing loss can have in a child. Today, we are going to talk a little bit more about we're going to move from identifying hearing loss to actually preventing hearing loss from happening.

That brings me to our learning objectives. After today's session, participants should be able to list five ways to protect young children's hearing. You should be able to list three things that can protect children's hearing when they are in loud places. You should be able to describe eight protective factors for good ear and hearing health. To accomplish our objectives, we are going to talk about hearing loss prevention. We're going to talk about healthy ear and hearing habits. We are going to go over lots of resources that you have to educate yourself, but also to share it with families. We are going to start with some statistics. This is my favorite slide because it's an eye-opener to how much we can do in this topic.

The CDC estimates that about 2 babies, every 1,000 babies born have a hearing loss. I can tell you that 50% of hearing losses at birth are due to genetic factors. The other 50% are not. 40% of hearing losses detected at birth, in other words, the baby was born with a hearing loss, 40% of those hearing losses are due to maternal infections during pregnancy. Those are the hearing losses that we can prevent. That makes, I mean, if we can prevent nearly 50% of hearing losses that happen at birth, can you imagine the impact that we can have on a child's development overall? We also know that by the time children join the school system, those statistics nearly doubled.

Last, we know that in children who are in the school system, that would be between 6 and 19 years of age, about 15% have some degree of hearing loss. This is why it's so important to talk about this topic. Because nearly 50% of hearing losses can be prevented. Thank you for being here today. Then this leads me to my next slide, preventing hearing loss in childhood. I'd like for all of you to put in the chat, what comes to your mind when you hear hearing loss prevention? What comes to your mind? What do you think about hearing loss prevention? if you can put it in the chat, I'm going to loud music. Great. Exposure to loud sounds. Ear infections. Hearing protection.

Annual screenings. Great. Ear protection, games. Yeah? Thank you, everybody. Thank you for sharing all of these. A lot of you are sharing that when you think about hearing loss prevention, you're thinking about exposure to loud sounds. Whether it's music, listening to loud music through personal sound devices, ear infections, I saw somebody mention that. Those are AirPods. Oh, my goodness. Yes. Untreated ear infections. Yes. Untreated ear infections can cause actually permanent hearing loss. Thank you, everybody. This is great. I think all of you have some idea of what we are going to be talking about today. I'm excited to go to the five things we can do to prevent hearing loss in childhood. We need to prevent maternal infections and malnutrition during pregnancy, we need to prevent ear infections, we need to prevent viral and bacterial infections during childhood, we need to prevent head and ear injury, and we need to prevent loud noise exposure.

Many of these were mentioned by you in the chat. Thank you for that. When we talk about preventing infections and malnutrition during pregnancy, we are talking about those infections that can be passed on to the fetus or to the baby during pregnancy. Some of those infections that we need to prevent that could cause hearing loss or toxoplasmosis, rubella, cytomegalovirus virus, which we usually refer to as CMV, herpes, HIV, lymphocytic virus, Zika virus, and syphilis.

here, I want to highlight, maybe, the most common. That is number 3, CMV. So most of the people have CMV infections, but we are probably asymptomatic. The problem is mainly when a woman when somebody gets a CMV infection for the first time during pregnancy.

But also it could be that it's a recurrent infection. When you get an infection, a CMV infection during pregnancy, the mother can pass it on to the baby. CMV is the most common virus that causes birth defects in the United States. It's estimated that about 1 in 200 babies are born with what we call congenital CMV. That means that the baby was born with the virus.

Because it can have long-term health effects, there is a big push to screen babies for CMV at birth and then provide them with the services they need and especially with the follow-up. Because for instance, 14% of babies born with CMV are going to have hearing loss. But that hearing loss might not happen right away. Those children wouldn't be picked up by the newborn hearing screening.

We need to know that a baby was born with CMV, we can follow them in the first years of life to diagnose a possible progressive hearing loss or a possible delay onset of hearing loss. That's why prevention of maternal infections is extremely important because many of them can lead to hearing loss. It can be passed on to the baby in the womb, and then they can lead to hearing loss in their newborn. Also, maternal nutrition influences the newborn's birth weight. We know that low birth weight is associated with congenital hearing loss. Taking care of nutrition during pregnancy is extremely important. How can we prevent maternal infections during pregnancy? Number 1, and this is just so easy. Handwashing.

CMV can be transferred to pregnant mothers through saliva or through urine of young children who are infected. There is a large amount of virus in saliva and in urine of those children. Extremely important to practice good handwashing after a change in diapers, especially those working in child care or those mothers with young children at home. It's extremely important that we don't share cups or forks or food with young children. Because that could lessen the risk of CMV infection during pregnancy. Very important that I mean, it's stunning that handwashing can help us prevent one of the most common infections that can lead to birth defect. Very, very important that we remember this.

When it comes to nutrition, prenatal care, it's extremely important. And of course, especially for mothers with other types of maternal infections, extremely important to have access to prenatal care. To keep a balanced nutrition. We have great resources in the ECLKC website for maternal health intervention and also for services for birthing parents.

We are going to send you a handout with active links to all these resources. You don't need to type them right now. Just know that we'll share all of them. At this point, before we move on to the next section, I want to ask, does anybody have any questions? And if you have any questions, please put them in the Q&A. And we can take questions at this point from the last slides that we shared. Nydia is going to help us reading the questions if anybody has any.

Nydia: Far so good. It looks like everyone is clear and no questions just yet.

Alejandra: Great. Thank you so much, Nydia. Next, we're going to talk about preventing ear infections. Some of you mentioned ear infections in the chat before. Yes, you were right. We need to prevent ear infections to prevent hearing loss. Otitis media is an inflammation or an infection of the middle ear. Is the leading cause of health care visits in young children.

Most young children are going to have some kind of middle ear inflammation or infection. There are different types of otitis media, from acute to chronic. If otitis media keeps coming back and if it's left untreated and on, it could become a chronic condition. Otitis media can lead

to mild to moderate conductive hearing loss. But if it becomes a chronic condition, and if it's left untreated, it could cause serious complications, and it could also cause permanent hearing loss.

I thought it's very important for everybody here to understand why it's common, it's prevalent among young children. And by young, we mean children 5 years of age or younger. That means, the entire population had Head Start programs. Why are young children predisposed to get Otitis media? Because I don't know. Can you see the cursor on your screen? Can you see my cursor? Nydia, could you, please, let me know?

Nydia: No. I'm not seeing the cursor.

Alejandra: Let me see. Can you see it now?

Nydia: No.

Alejandra: I'm going to draw. Hold on a second. Can you see those little dots?

Nydia: Did you draw dots, or dots on the image?

Alejandra: I put those little dots in the slide. Can you see them?

Nydia: Oh, no. We are not able to see it. No.

Alejandra: I'm going to close it.

Nydia: OK.

Alejandra: It's OK. Don't worry. Can you see where it says middle layer in this slide? Your middle ear is everything that is in behind the eardrum and before the cochlea, which is that snail-looking organ, which is our hearing organ in the inner ear. Your middle ear connects through the Eustachian tube down to the back of your nose. When we are little ...I'm sorry. It connects to the back of your nose because that allows us to equalize pressure. When you fly and you pop your ears, you are able to pop your ears because of the Eustachian tube. We need to equalize pressure when we fly, when we go up to a tall building, when we go diving, when we climb a tall mountain, and so on.

We can do that Thanks to the Eustachian tube. Now, when we are little, the Eustachian tube, it's pretty much horizontal because our faces are small, and of course, our facial features are different when we are young children. That means that the Eustachian tube is more horizontal, and it's a highway between your nose any congestion in the back of the nose, any congestion that is building mucus can easily travel to the middle ear and fill the middle ear with that fluid. That fluid being mucus, mainly.

Then if mucus stays there for too long, it causes decreased hearing. It also can cause it's the best environment to grow bacteria. That's when you get infections and infections can actually

perforate or rupture the eardrum. As we grow older and our facial features change, the Eustachian tube is more inclined. then because of gravity, is less likely that it's not impossible, but it's less likely that mucus from your nose can travel to the middle ear.

We still see otitis media in adults, but significantly less compared to young children. This is important to know why it's prevalent in early childhood. How can we prevent ear infections? First of all, breastfeeding offers significant protection against acute otitis media, especially in those early years of life. It also protects children from chronic otitis media because chronic Otitis media is a complication of acute Otitis media. Chronic Otitis media, if left untreated, can have very serious complications, and also can cause permanent hearing loss. Breastfeeding is a very important factor when it comes to protection.

We also have to practice good ear hygiene. And that means, not using Q-tips, not inserting anything in the ear canal to clean any kind of fluid or discharge or ear wax, none of that. We also need to avoid use of home remedies for common ear conditions. If a child has ear discharge and that kind of thing, we cannot use home remedies for that. Tobacco use, it's harmful because second-hand smoking is associated with otitis media, especially in young children. Decreasing tobacco use, obviously, decreases the risks associated with its use. In the adult population, tobacco consumption is linked to chronic diseases and also hearing loss.

We were talking before about avoiding home remedies. Do not use home remedies in common ear conditions because they can cause more harm than relief. Do not use ear candling – putting hot oils or anything like that to treat ear diseases. We want to encourage family not to seek care from untrained providers. Using Q-tips can be harmful because number 1, they can irritate the skin in the ear canal. Opening a door for a possible infection. They can also push ear wax deeper in the canal causing ear wax impaction.

Then if somebody puts a Q-tip or maybe something else trying to clean their ear canal of a child, if the child abruptly moves, you can actually perforate the eardrum, cause hearing loss, and also cause the possibility of an ear infection. Extremely important that we don't use Q-tips or cotton bats. It's extremely important that families know that they need to seek medical attention for common colds, for your pain, ear fullness, ear discharge, any kind of bleeding coming out of the ears, or any concern with hearing loss. Any questions at this point from this last section?

Nydia: Yes. We had quite a few folks say, what are your recommendations for ear cleaning?

Alejandra: Excellent. earwax is very common. Ear wax is good because ear wax is there to protect the eardrum. Young children can build more ear wax when they're young. The recommendation would be, if you think that there is earwax buildup because remember, ear wax is normal. Having ear wax is normal because it's there to protect the ear. Having ear wax buildup, that's a different story. The recommendation would be to take the child to primary care. Absolutely. Thank you. That's a great question.

Nydia: There was one additional question, Alejandra, if I may

Alejandra: Yes, please.

Nydia: Do you recommend items like Debrox or earwax softener?

Alejandra: That's a great question. I think that for the use of drops in a child's ear, I would talk to the primary care provider. Just because if there is you shouldn't put any drops if there is history of eardrum perforation or anything like that. Anything like over-the-counter remedies for children, I would talk to a primary care provider first. I wanted to add one quick thing to the previous question, which I thought it's excellent. All these questions are excellent when it comes to cleaning your ears. I wanted to highlight that the ear canal has a self-cleaning mechanism. The skin in the ear canal rotates towards the outside, bringing the ear wax out. Then it should be able I mean it should be cleaned in the shower.

At the end of the shower, all you need to do is maybe put a tissue around your finger, and then your finger, obviously, is not thin enough to go inside the ear canal. But you can clean and dry the outside of the ear canal. And it also can help you get that feeling of dryness. But the ear canal has a self-cleaning mechanism in place. That's why we don't recommend anything in particular for cleaning your ears. Earwax buildup, that needs to be removed by a provider, by your health care provider. Thank you. We can take more questions.

Nydia: One last question related to home remedies. We had a question on-- the person mentioned, I grew up with my mom putting hydrogen peroxide. Is that OK to use?

Alejandra: Again, I would say, talk to the primary care provider. The reason why is because if a young child has a history of middle ear infections and has the possibility of having a perforated eardrum, you don't want to put anything in the ear. I would still refer to this might be a phone call. The primary care provider of the child would know if there is a history of eardrum perforation. And then they can recommend what could we used to soften earwax or anything like that. Thank you. Those are great questions. Thank you, everybody. Let's move on to the next one. Prevent viral and bacterial infections. In the first section, we talked about maternal infections. Those infections that happen to the mother during pregnancy. That they can be passed on to the baby. But now, we also need to prevent viral and bacterial infections in early childhood and throughout our lifespan.

We are talking about the importance of preventing rubella, meningitis, mumps, and measles because they can cause hearing loss. They can cause unilateral or bilateral hearing loss. The hearing loss could be moderate to profound because of these type of infections. How do we do that? Very important, very easy, and it's through vaccines. We are very lucky to have vaccines for all these conditions. That can help us prevent I mean, this hearing loss caused due to these viruses is preventable. Because we have vaccines to prevent these type of infections. We have great resources, again, in the ECLKC talking about infants and vaccines, vaccines and developmental milestones, and how to manage infectious diseases. Please check them out. Again, they're going to be in the handout that we are going to email to all of you. Any questions at this point?

Nydia: There are a few other questions, but I think they'll fit better in other sections. We'll let you get on. If you see that I haven't pulled your question, no worries, because Dr. Ullauri will probably get to it in another section.

Alejandra: Excellent. Thank you, Nydia. number 4. We need to prevent head and ear injury. Because head any injury can also cause hearing loss. Let's go head and ear injury can be caused due to intentional, accidental, or during some kind of surgical procedure. We can prevent falls and we can prevent blows to the head that can cause ear and head injury. For example, slapping children as a punishment, besides the fact that it can have lifelong psychological effects, it can also perforate the eardrum and cause hearing loss and also possible ear infections. How can we prevent head and ear injury? Number 1, we can prevent head injury by using helmets. Having children use helmets when they're riding bikes or tricycles. Avoid slapping children, especially in the ears. Not inserting anything in the child's ear.

Remember that when people insert peeks or clips or pencils attempting to clean the child's ear, it could actually cause perforation and it could cause ear injury that might not be able to recover fully and permanent hearing loss could result of that. We also need to prevent falls. We need to watch children constantly when they are in the bath. We need to make sure that we install window guards on upper windows. We need to make sure that we have gates at the top and bottom of the stairs. We need to make sure that we are always using the safety latch in the child's chair and strollers. We have great resources in the ECLKC about preventing falls. We also have great resources about safety in the playground, safety in transportation, and then safety at home. Preventing head and ear injury can be extremely helpful to prevent hearing loss. Any questions in this section?

Nydia: For this section, no.

Alejandra: OK. Thank you, Nydia. And then the last thing that we can do to prevent hearing loss, as many of you mentioned in the chat, is to prevent exposure to loud sounds. Noise-induced hearing loss. Hearing loss caused by the exposure to loud sounds or noises can be permanent and can build over time.

This is a key factor that I'd like you to remember. It's that noise exposure has an accumulative effect. I see, in my practice, children and adults. When I ask adults if they have history of noise exposure, they say, usually no, not really. I mean, many years ago when I was young, I used to go to loud concerts or I played in a band. Many people think that since you didn't get a hearing loss right after the event, you're fine. You made it through. The fact is that noise exposure has an accumulative effect. Every time you are in loud environments, you might be causing irreversible harm to your ears. Hearing loss caused I mean, caused by exposure to loud sounds is permanent. This is irreversible hearing loss.

The main thing that we all need to remember is that it's 100% preventable. We can prevent noise exposure. It's extremely important that we talk about these because many people are at risk. It's important that families know that any instrument can harm a child's hearing if they are played loudly enough and for long periods of time. Very important that we pay attention to the

volume or to the intensity, but we also pay attention to the time of exposure. How can we prevent hearing loss from exposure to loud sounds? The number 1 thing, so many of you mentioned this in the chat about listening to loud music through AirPods and through personal sound devices.

The first thing is to turn the volume down. Many of these devices have a built-in feature to control volume, and to make sure that volume doesn't exceed 80 dB. It's extremely important that we turn the volume down, and it does not exceed 80 dB. However, if you are in doubt whether your device has this feature to control the loudness, a good rule of thumb is to listen to a volume that is 60% or less of the maximum volume or of the volume range. If you are unsure about the loudness of your device, listening to it below 60% of the volume range, you are in a safe range. People can use noise-cancellation earphones or headphones you don't have to turn up the volume much in order to be able to hear. This is what I wanted to highlight to everybody.

The WHO estimates that more than 1 billion young people put themselves at risk of permanent hearing loss often unknowingly by listening to music at loud intensity levels over long periods of time. Every time we give personal sound devices to children, we need to make sure that those safety levels are turned on. Need to make sure that they cannot increase the volume by mistake or without knowing. I mean, all the information we're sharing here today, obviously, we're talking about young children. But it also applies to older children in the family. It applies to mainly the entire family because a lot of these things can happen at any time in life. Just to think that 1 billion young people might get preventable might get hearing loss from a preventable cause without knowing just because they're listening to loud music.

We need to avoid loud sounds and loud noise. If we are going to be in a noisy place for a given reason, we need to minimize the time we spend in that noisy place. We need to make sure that we don't spend a lot of time listening to loud personal audio devices. If we have to be in a noisy place, it's recommended that we take regular breaks and move to a quieter area often during the time. We can also wear hearing protection. Hearing protection is a good idea when we are attending movies, auto races, sporting events, firework shows, music concerts, music festivals. You can see, all these places, it might be something that the family do. It's a family thing to go to the movies, to go to an auto race, to go to the stadium to see our favorite team playing. Stadiums can be extremely loud. We always need to think about hearing protection. The earmuffs that you see in the picture, you can get those earmuffs for babies.

Older children can actually use earplugs that we're going to show you in a second. But those earmuffs you can get for babies. If a family is going to the firework show, they need to make sure that even the babies have hearing protection on because those places can be extremely loud. You have to remember that noise exposure has an accumulative effect. When it comes to earplugs, earplugs can protect your hearing from harmful noises. You can still enjoy what it's not that you're not going to hear anything, it only decreases the intensity. You can still enjoy the music without putting your ears at risk. This is just a quick sample how to a quick demonstration of how to use over-the-counter earplugs. You roll them, you pull your ear

backward, you insert the earplug, and then you hold it in place until it expands and seals the ear canal. We need to talk to our children about noise exposure.

We need them to know what's too loud when they need to remove themselves from these loud places. They need to know about the hearing protectors and hearing protection available to them. The Noisy Planet, I really encourage you, all of you to visit the Noisy Planet. They have great resources for families. Their resources for schools are more geared to school-age children. But I think they have extremely important information for families. The idea is that we prevent hearing loss in everybody, not only in young children. Great information for families and teachers. I also wanted to talk about fact that sometimes, we think that those of us that live in big cities, the noise of big cities public transportation and trains and on, that we are the only one that might be exposed to those loud sounds. That we might be in loud environments on a daily basis.

Sometimes, we think that people that are in more rural places, they live that nice and quiet life. The reality is that farms can be extremely noisy. The level of noise can be extremely high and harmful to our ears. I love that Noisy Planet, thought about this, and put together this fabulous video to show that we need to think about protecting our families from noise exposure pretty much everywhere. When we go to a stadium, if we live in a farm when we go to fireworks. Because there are many activities that we engage in. These activities might be very loud and cause harm, irreversible harm to our ears. Let me play this video.

[Video begins]

[Rooster crowing]

[Cow mooing]

[Dog barking]

Narrator: Hi. We're in Purcellville, Virginia. And we're talking with folks on the Mountain View Farm about how parents can teach children who live or work on a farm about preventing hearing loss from too much noise. "It's a noisy planet, protect their hearing," is an educational campaign developed by the National Institute on Deafness and Other Communication Disorders. The campaign has created healthy hearing tips, especially for families living on farms.

Some people think life here is quiet. All green fields and idyllic pastures where farm animals romp and play. And the only loud sound you hear is the clanging of the dinner bell. But that's not always the case. Is it?

[Pig squealing]

Farmer 1: It's not that quiet. We have a lot of noise makers here. Chickens, goats, cows mooing, we have pigs.

[Pig squealing]

We also have quite a bit of machinery chainsaws, weed lacquers.

[Chain saw]

Spend a good amount of time mowing tractor.

[Tractor engine running]

A number of old-timer farmers here that they are a bit hard of hearing a lifetime on making hay on tractors, just this repetitive loud machinery for 30, 40 years is taking a toll. Generally, for the kids, we try to keep them away from the loud stuff. They're just not there that seems to be the best type of hearing protection. Just keeping the exposure down.

Narrator: How do you protect your hearing on the farm?

Farmer 2: We use hearing protection when we're doing everyday things like weed whacking or sitting on the tractor doing some jobs, but we also use it at other times like with the chickens and the pigs. The pigs can squeal at the same decibel as a snowmobile. We try to wear ear protection even when you think you might not need it.

[Pig Squealing]

Narrator: Here are some tips on how you can reduce exposure to noise around the farm. Turn machinery off when it is not in use or limit the time you're around it. Remind family members to use hearing protectors around noisy work areas or equipment. Encourage kids to wear earmuffs or earplugs around the farm. Make hearing protection a habit. When using noisy equipment, make sure everyone nearby has hearing protection. Some farm equipment can be as loud as a rock concert. For more information on keeping noise down on the farm, visit Noisy Planets website. Like us on Facebook, brought to you by the National Institute on Deafness and Other Communication Disorders, National Institutes of Health, the US Department of Health and Human Services.

[Music playing]

[Video ends]

Alejandra: Thank you, everybody. It's a great video. It's a great reminder that we can be exposed to loud levels in many places, not only in those places that we think are commonly loud. Here are some tips for a quiet home. Basically, keep TV music at low volumes. If you're thinking of buying new appliances, you can check the noise ratings of these machines. Wear hearing protection if you're doing chores such as mowing the lawn, and you can put red stickers on objects that can cause loud noises or loud levels. You're going to get all these tips in the handout as well in one of the links. I'm sorry that these moved again. I wanted to say, I wanted to end this section by reminding everybody of three golden rules when it comes to noise exposure.

Number 1, lower the volume. If you can, lower the volume. If you cannot lower the volume because it's not up to you and you have no control on that, move away from the noise. Increase the distance between you or your family and the noise generator. Also, take breaks often. If you are at a music festival, spend more time, move away from the band, and maybe walk away to other areas and take breaks, often, during the time. If you are going to attend any of these events, always wear hearing protection. Remember, nobody is too young to wear hearing on protection. You can get earmuffs for babies. I want to remind everybody about one of your learning objectives. These are protective factors to prevent hearing loss.

We need to keep in mind maternal health and nutrition, maternal hygiene. Remember about CMV infection. Hand-washing and not sharing cups, food with young children. Always wash your hands after changing diapers. Breastfeeding can offer great protection against otitis media, which is ear infections. We need to practice good ear hygiene. Not using Q-tips, not inserting anything inside the ear. We want to protect children from head injury, head trauma, and also ear injury. Remember that using Q-tips can actually cause ear injury if the child moves and you accidentally perforate the eardrum. Avoid loud sounds and noise. avoid exposure to these too-loud noises. Keep up with vaccines. And of course, good nutrition. With that, remember that hearing loss can be prevented outside those type of hearing losses caused by genetic factors. Hearing loss can be prevented. At this point, we could take more questions. Nydia, could you help us?

Nydia: Sure. I'd be glad to. Relate to ear protection and earplugs that you mentioned, we had a couple of questions around, they see that there are different types of earplugs available online. Does it really make a difference. Do you have a recommendation on that as well as I'm going to put two questions together because they're related. Are there any recommendations on a safe age for AirPods for children?

Alejandra: Thank you. A great question. Both are great questions. number 1 about earplugs, I think, if you go to the Noisy Planet, they have great recommendations. Foam earplugs are very easy to get. Yes, there are lots of different kinds. You can go wrong with foam earplugs. Especially for children, they're very easy to use. As you saw, you have to squeeze them, insert them, and then keep them in place until they expand.

For adults, you can also get custom made earplugs and so on. I think foam would be a perfectly good option. As far as AirPods, I don't think there is a recommendation for children to use AirPods. I know that many children have access to these sound devices or personal sound devices. I'm not aware of an age recommendation. I do know that we want to decrease screen exposure for children. I think those two go hand by hand. I would say that that's a great question. I'm happy to send you the link to more information about reducing screen time for children. Livia, could you please remind me we can add it to the handout? I think that's a great question, and it's very important for people to be aware of the harms that screen time can have in children's development. Thank you.

Nydia: And I want to encourage participants, if you have question, there has been great engagement in the chat. But if you have any questions, we ask that you put that in the Q&A

feature. Because even if we don't get to answer your question today, someone will follow up with your questions. We can't capture them when they're in the chat, please be sure to put your questions in the Q&A feature. Thank you so much.

Some other questions. I tried to lock the questions together into categories to make it a little easier for you to answer. We have a couple of questions about what can you do regarding ringing in the ears? And there were similar questions around, again, recommendations on reducing ear information or unplugging the ears due to flying or being in high altitudes or swimming. Just recommendations around that as well as any recommendations for ringing in the ears.

Alejandra: Those are big questions. Thank you, everybody for your interest. Ringing in your ears, we call it tinnitus. It's very hard we know adults report tinnitus. Tinnitus is not a disease. Tinnitus is only a symptom. It's only a symptom of some kind of ear or hearing problem. It could also be a symptom of TMJ. It could also be a symptom of neck problems.

But people who have hearing loss, most of them have tinnitus. Ringing in the ears. As I said, tinnitus is only a symptom. It's hard to make recommendations because without knowing where the tinnitus is coming from, the recommendations are going to vary depending on the cause. As far as children, we don't have a lot of data on tinnitus in children because it's very hard for them to report it. All their children might report they started hearing a noise, but young children might not report it. Tinnitus in children, it's a gray area that I don't know if we have a lot of good information.

As far as protecting your ears when swimming and so on, children that if a child has an existing eardrum perforation or they have ventilation tubes that sometimes are used to treat middle ear infections and on, then usually, the health care provider will advise them to get earplugs for swimming and so on. Definitely, if there are concerns about middle ear problems or middle ear problems that may include an eardrum perforation, definitely, talk to the primary care provider about the need to get your plugs. Those earplugs can be custom-made in some situations. Thank you. That's a great question.

Nydia: I think we have time for a couple more. I'm trying to lump them together where appropriate. We had a couple of questions around, perhaps, children who have tubes in the ear, if it's possible to still have hearing loss there. Also related is there a recommendation if they should see their primary care physician versus an ENT, ear, nose, and throat physician. Is there a recommendation, particularly, for children who have tubes?

Alejandra: Great question. Children that have tubes, they got the tubes through an ENT, an ear, nose, and throat physician. Those children would be under the care of an ear, nose, and throat specialist already. Always go back to that specialist because they can advise you on the best way to monitor their hearing and so on. Ventilation tubes can come out on their own.

They stay six months, sometimes eight months, and sometimes longer than that. But the ear, nose, and throat physician would be the best person to advise on monitoring and whether the

child has the need to use ear plugs for swimming and that kind of thing. That was a great catch. Children with your tubes are already seeing an ENT specialist. Children with middle ear infections might be only seeing a primary care provider. Because a lot of middle ear infections, because they're so common in early childhood, they're managed at primary care at primary care level, I'm sorry. Then those chronic cases and on, when the treatment is not working, then the children are referred to an ear, nose, and throat specialist.

Nydia: I think we can squeeze in two more questions because I think one can be answered quickly. Someone just wanted to clarify in the section where we were talking about immunizations, vaccination, and for preventing hearing loss. Was that vaccinations for the mother or for the child after birth?

Alejandra: Excellent question. I'm going to go back to this slide if I may hold on 1 sec. Thank you. That's an excellent question. I'm glad that I have the chance to clarify it. Can everybody see my slides?

Nydia: We can see it.

Alejandra: OK. I'm going to go back to the very first one and then OK. We talk about five ways we can follow to prevent hearing loss in childhood. The first one is maternal infections and malnutrition during pregnancy. Because if the mother gets the infection during pregnancy, can pass that infection to the child. Then the child is going to acquire a hearing loss because of the infection. Many of these infections will result in the child being born with a hearing loss or developing quickly a hearing loss after birth. But then we number 3, we talk about viral and bacterial infections. Anybody can get these infections throughout life. Rubella, measles, mumps, meningitis. If you have not been vaccinated, you could get it.

We want to make sure that children are not getting these infections in childhood. We want to make sure we want to protect them through vaccines so they don't get those infections, because those infections can result in hearing loss. Thank you. That's a very important question. One applies to the mother getting the infection and passing it on to the unborn baby, and the other one applies to an individual. Could be a child, could be a teenager, could be an adult. An individual getting the infection. Thank goodness, for those infections, we for those viruses and bacteria, we have vaccines.

Nydia: Well, thank you so very much. That is all the time that we have today. But we got a lot of questions in. We want to say thank you so much, once again, to our presenter Alejandra Ullauri for all this very important information. Do not worry. If you have more questions, you can go to MyPeers or write to health@ecetta.info. The evaluation URL, it will appear when you leave the Zoom platform. Remember that after you submit the evaluation, you will see a new URL. This link will allow you to access, download, save, and print your certificate. Thank you. We're getting to the slides.

Alejandra: Thank you, everybody. Thank you for joining us, thank you for all your participation and your great questions. I love that question about AirPods. We're going to get back to you with information. It's an extremely important topic. Thank you, everybody.

Nydia: Before everyone goes, I want you to know that you can subscribe also to our monthly list of resources using the URL that I mentioned before. You can find our resources in the Health section of the ECLKC or write us. Again, that email address is health@ecetta.info. Thank you once again to Alejandra Ullauri and thank you all to our participants for your engagement and participation today. Thank you so much. Kate, you may close the Zoom platform.