



CochlearConnections

News from the Cochlear Implant Center | Fall 2021

Cochlear Implant Center

19 Bradhurst Avenue
 Suite 3800 South
 Hawthorne, NY 10532
 914.493.4634

CochlearImplantCenter@WMCHealth.org

The Cochlear Implant Center at Westchester Medical Center, flagship of the Westchester Medical Center Health Network (WMCHealth), provides coordinated audiology and speech-therapy services for cochlear implant patients and those considering this life-changing technology. It is the only center between New York City and Albany providing comprehensive services for children and adult patients.

The Cochlear Implant Center is staffed by a team of highly trained audiologists and speech pathologists with expertise in evaluation and rehabilitation services for individuals who are cochlear implant candidates and those who receive a cochlear implant. Cochlear implantation is a highly successful technology that allows deaf children to hear and speak, and enables deafened adults to enhance their lives. The Cochlear Implant Center provides comprehensive services such as individualized programming of the implant and speech-therapy services.



Westchester Medical Center

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Westchester Medical Center Health Network includes

Westchester Medical Center | Maria Fareri Children's Hospital
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 St. Anthony Community Hospital | HealthAlliance Hospital: Broadway Campus
 HealthAlliance Hospital: Mary's Avenue Campus | Margaretville Hospital

Educational Accommodations and Support

Children with hearing loss benefit from accommodations, support and extra direct instruction and therapy. Because hearing loss is a disability that can impact language development, learning and social development, it is important that children receive the needed help. There are two laws that can protect your child's access to these services:

Americans with Disabilities

Act (ADA): Section 504 of the Rehabilitation Act of 1973 prohibits discrimination based upon disability. Furthermore, Section II of the ADA requires school districts to "ensure that communication with students with disabilities is as effective as communication with students without disabilities, giving primary consideration to students and parents in determining which auxiliary aids and services are necessary to provide such effective communication."

In other words, your school district is required to provide auxiliary aids/equipment that will enhance your child's ability to hear in the classroom. Common auxiliary aids for children with hearing loss include FM systems, classroom speakers, equipment that lessens noise, note-takers, written notes, captioning (CART) and American Sign Language (ASL) interpreters. The appropriate services are outlined on a "504 Plan" that is developed by the school district, in collaboration with the family.

Individuals with Disabilities

Act (IDEA): The IDEA requires school districts to provide a "free and appropriate education (FAPE)" to any child who needs special education and related services. It is important to note that the need for services is not limited to academic performance; rather, it should include factors such as social development, communication with peers and teachers, self-advocacy, listening effort, speech and language development. Services provided under the IDEA may include more direct academic or special education support, speech and language services and services for teachers of the deaf. Under the IDEA, your child will receive an individualized education plan (IEP) that outlines all services and anticipated academic and social goals for your child. The school district is accountable for providing services that will help your child meet these goals and be a successful learner and communicator. The Committee for Special Education will write your child's IEP before the school year begins and goals will be reviewed and updated at the end of the year.

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We are excited to introduce Jacqueline Valdez, LCSW-R, to the Westchester Medical Center cochlear implant team. Ms. Valdez is a senior social worker in women's health and pediatrics at Westchester Medical Center. She will be integral to our mission of providing greater educational advocacy for our pediatric cochlear implant recipients.

Educational Accommodations and Support

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In summary, a 504 plan typically provides a list of accommodations that your child may need to be a successful student and the IEP specifies the educational and support services that your child will receive and outlines expected goals for the school year. If you have questions or concerns about the support that your child receives, contact the Committee for Special Education or Office for Pupil Services in your school district. Feel free to contact the Westchester Medical Center Cochlear Implant Team if you need support.



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Classroom Acoustics

Children need to hear and understand speech to learn. To do so, they require an ideal listening environment. This is particularly true for children with hearing loss, who are already at a disadvantage. **Classroom acoustics** is the term used to describe the classroom listening environment. This includes background noise, reverberation time and distance.

Background noise, which is often too high in a classroom, drowns out the teacher's voice, making it too difficult for the students to hear and understand. Reverberation, or the bouncing of sound off surfaces, causes distortion. Many classrooms have excessive reverberation because their walls, floors and furniture are hard and reflect sound. Speech that is distorted from reverberation is much harder to understand. We know that sound gets softer as it travels through the room. Students who are seated away from the teacher will receive a much softer signal.

Poor classroom acoustics can create many difficulties for students, particularly those with hearing loss. Some of these problems include:

Speech understanding difficulties

Reading and spelling delays

Behavioral problems in the classroom

Inattentiveness and difficulty concentrating

Listening fatigue

Remote Microphones

The best method for countering poor classroom acoustics for students with hearing loss is to use remote microphone technology such as the FM/Roger system. The microphones on hearing aids and cochlear implants are designed to pick up sound from many directions and often amplify too much background noise. Remote microphone systems are designed to only pick up sound that is nearby, such as the teacher's voice. Remote microphones transmit sound via radio frequencies, bypassing the background noise, reverberation and distance that makes sound difficult to hear and understand.

In addition to using remote microphone technology, there are simple changes that can be made to the classroom that will not only help the child with hearing loss, but all those in the classroom, including the teacher.

Place rugs or carpets in the room

Hang curtains or blinds on the windows

Use soft materials such as corkboards or felt on the walls

Place tables at an angle rather than in rows

Turn off noisy equipment when not in use

Place soft tips on the bottom of chairs and tables

Ideally, the child with hearing loss should be placed in a quiet classroom, with soft surfaces that absorb rather than reflect sound, and be seated no more than 6-10 feet from the teacher. Children with hearing loss will have the opportunity to thrive when classroom acoustics are well managed.

Alerting Devices for Deaf and Hard-of-Hearing People:

Often individuals with hearing loss cannot use standard alert systems that rely on sound alerts. However, there are some good non-auditory alert system options that you may want to consider. There are basically three different non-audio alert features that are commonly used:

Video

A small camera that is placed at a desired location (e.g., front door or over crib). The video feed is streamed to a portable receiver, which can be a separate video apparatus and/or your cell phone.

Light Indicator

This feature is activated when the doorbell rings, the baby is crying, a smoke alarm is triggered, and/or a phone rings. The light can be a stand-alone strobe light or a designated lamp.

Vibration Indicator

This works similarly to the light indicator in that the designated sound triggers the alert, which vibrates. You can wear a stand-alone watch for the home, or use your cellphone, a discreet alerting bracelet, and/or an Apple Watch. This is a great option for when you are in multiple rooms at home and you can't always check for visual alerts.

In addition to non-audio alerts, there are a few auditory systems that have a special increased amplification to make an alert very loud, using lower-frequency sounds to make the alert more audible for a hearing-impaired person. Examples include:

Alarm Clocks

Hearing a standard alarm clock can be challenging for people with hearing loss. There are many different types of non-auditory alarm clocks available. Some alarm clocks have strobe lights and/or bed shakers.

Smoke, Fire and Carbon Monoxide Detectors

Thankfully, there are smoke alarms that are specially made for people with all types of hearing loss. Some of these devices are sold separately from other home alert systems and some are part of a combination fire/carbon monoxide detection system. Many have extra-loud alarms with flashing strobe lights. If you are a heavy sleeper, you can get a bed-vibrating fire alarm system that can go under your pillow



or mattress (depending on strength) to shake you awake. In addition, some devices can shake you awake with a digital display that displays the word "FIRE" in orange.

Doorbell Signalers

There are many types of door signal systems ranging from a simple flashing strobe light to a vibration system that is connected to your smart phone or comes with its own receiver. Some systems can be kept in a central location of your home; these will let you know through your cell phone and/or flashing light when someone is calling you or ringing the doorbell.

Phone Signalers

There are systems for landline phones that can be plugged directly into the outlet and phone line or attached to the side of the phone to pick up the sound directly. There are many different and advanced options on the market. Many technology companies have developed unique and discreet bracelets, smart watches, and Apple Watches that can alert people when their cell phone is ringing.

Weather Alert Systems

These report upcoming storms or dangerous weather conditions with extra-loud sirens, texts explaining the alert, and lights indicating the severity of the alert. They can be used as a stand-alone or in conjunction with other alert devices (see above).

Links to Vendors that Supply These Systems

The following are examples of companies that provide alerting devices for hearing-impaired individuals. If you contact their customer service departments, they can help guide you in finding the best solution to meet your lifestyle and needs.

<https://www.diglo.com/>

<https://hearmore.com/>

<https://lssproducts.com/alerting-devices/>

<https://teltex.com/>



Anna is a 74-year-old woman who began to experience hearing loss in adulthood.

We met Anna in 2012 when she reported that hearing loss in her right ear was interfering with her ability to work as a hairdresser and to socialize. She received a cochlear implant at our center in October 2012. When hearing loss in the left ear progressed, she received a second implant in 2018. Anna has been kind enough to share her impressions of her cochlear implant with us.

Q What made you decide to pursue cochlear implantation?

A Fifteen years ago I had Meniere's disease and my hearing decreased in one ear. I was using a hearing aid but it no longer helped. Five years later the other ear decreased and I could no longer hear in that ear.

Q How has cochlear implantation changed your life?

A I am able to communicate with people much better. However, now that everyone is wearing masks, I am having more difficulty; it reminds me that I still need to use lipreading to understand.

Q What does speech sound like?

A It's funny, when I only wear one speech processor, speech sounds robotic, but with two it sounds like normal speech.

Q Can you listen to music?

A Music still does not sound normal, which is difficult for me because I used to love to listen and to dance.

Q Can you talk on the phone?

A My cell phone connects directly to my speech processors and I can hear very well.

Q What activities have you been able to resume since getting the cochlear implants?

A The phone was very difficult before I got the cochlear implants; it is now much better. Also, it is easier for me to talk to people; speech is much clearer, although listening in noise can still be challenging.

Q Given the chance, would you do it again?

A Yes I would.



Spotlight on Staff

Rivka Bornstein, AuD, CCC-A

Rivka is a senior audiologist at the Cochlear Implant Center and has been practicing since 2010. Rivka has worked with cochlear implants since 2012 when she first joined the cochlear implant team.

What is your favorite vacation destination?

That's an easy one! Israel is by far the most amazing place I've had the chance to visit. I've been there on multiple occasions, even going to school for a year, and each time it's as if I'm coming home! I love all the history and beauty of the country.

What is your favorite part of working with cochlear implants?

I am very thankful and humbled by my role on the cochlear implant team at Westchester Medical Center. It's such a wonderful experience knowing that I get to have a small part in changing a person's life. Seeing someone hear for what may be their first time is a moment that will never get old.

What is your favorite thing to bake/cook?

I love being able to make my grandmother's famous caramel cake. This is something special she would make when the family would get together and something we all looked forward to. Now that she's 94 years old and can't make it herself, I feel like I am carrying on her tradition. I especially love being able to save a piece for her to enjoy, even though she always made it better!

What's your favorite book/series?

Growing up, there was never a shortage of books in my house so this is a hard question to answer! I'd have to say the Harry Potter series, which I've now read multiple times. Each time I read it, there's always a new detail that I find. I love how a seemingly minor detail in the first book plays an important part in the series finale. I love how this series has transcended generations and will likely remain a classic for years to come.

Please do not hesitate to contact us if you have any questions or need additional help at 914.493.4634



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