

Ear, Nose and Throat

# Your Guide to the Cochlear Implant Program



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# 01

## Better care, better hearing

Thank you for trusting Northwestern Medicine to help you with your hearing journey. In the Northwestern Medicine Cochlear Implant Program, you will be at the center of your care team. We're here for you at every step.

Our goal is to provide personalized and comprehensive care. Hearing improvement with a cochlear implant can change your life. For over 30 years, our cochlear implant team and hearing scientists have been supporting people with severe hearing loss.

This guide will help you navigate the cochlear implant process.



Image courtesy of Cochlear Americas.

# 02

## Meet the team

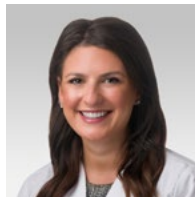
### Audiologists



**Lindsay Kandl, AuD**  
Chicago



**Allyson Weiss, AuD**  
Chicago



**Mara Michel, AuD**  
Evanston



**Krystine Mullins, AuD**  
Winfield

### Surgeons



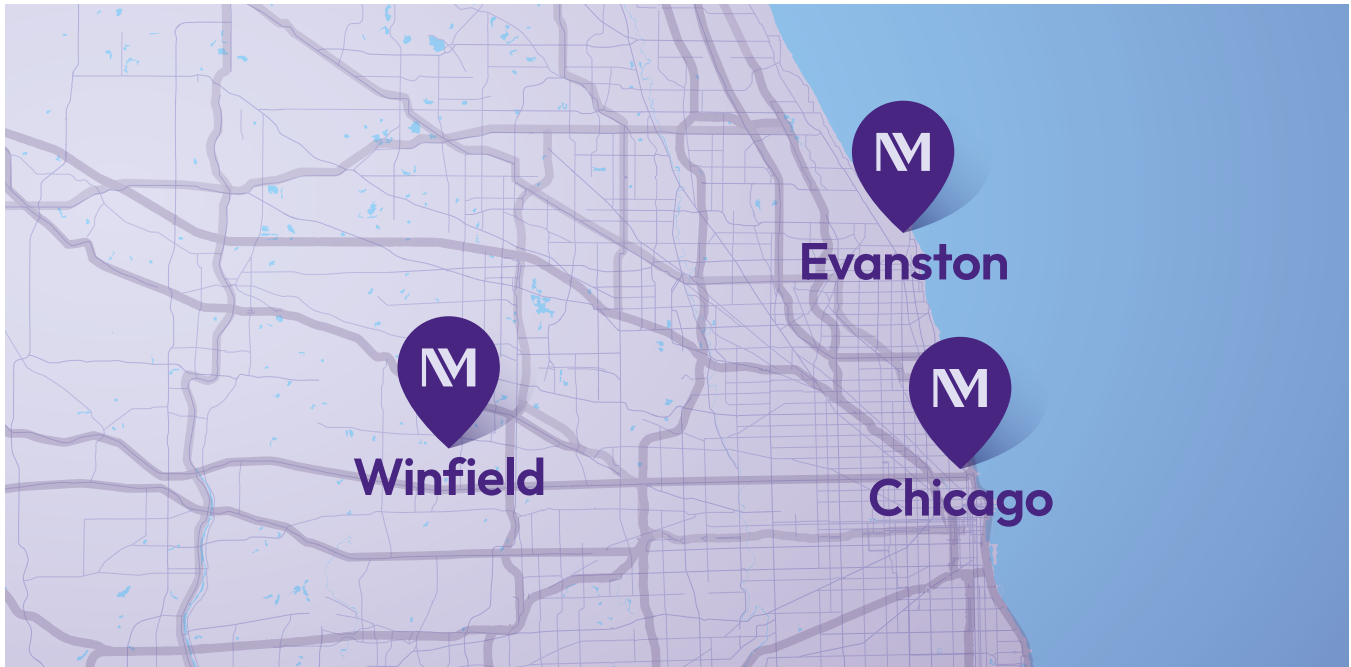
**Alan Micco, MD**  
Chicago



**Mark Wiet, MD**  
Winfield



**Kevin Zhan, MD**  
*Director, Cochlear  
Implant Program*  
Chicago, Evanston



## Downtown Chicago

**Northwestern Memorial Hospital**  
Galter Pavilion  
675 North St. Clair Street, Suite 15-200  
Chicago  
Fax: 312.695.6850

To schedule an appointment, please call Angela Hels at **312.695.4923**.

## West suburbs

**Northwestern Medicine Central DuPage Hospital**  
25 North Winfield Road, Suite 424  
Winfield  
Fax: 630.933.4057

To schedule an appointment, please call Julie Larson at **630.933.4056**.

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TTY for all locations: **711**

## North suburbs

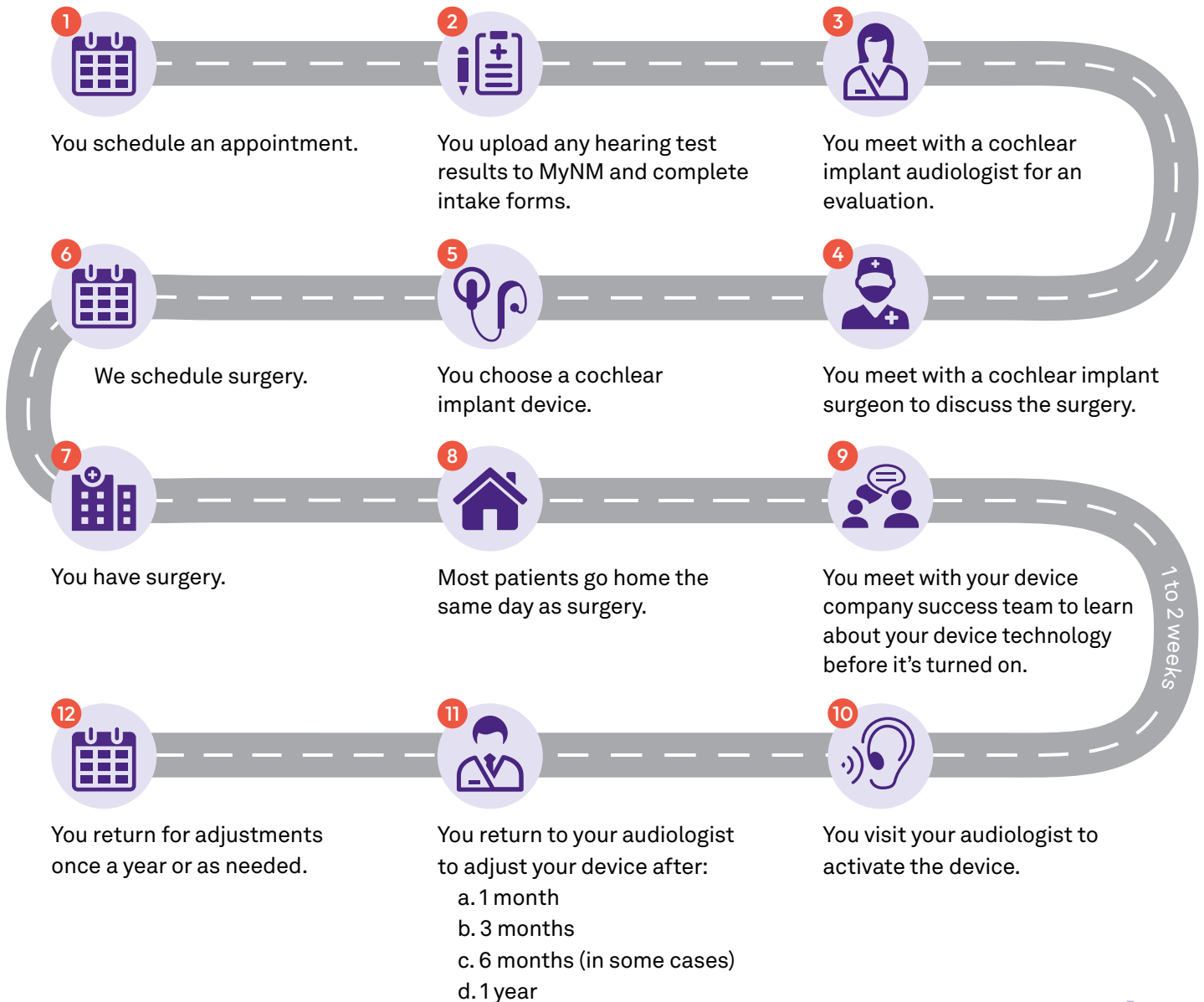
**Northwestern Medicine Evanston Sherman Avenue**  
1630 Sherman Avenue, Suite 200  
Evanston  
Fax: 224.271.4870

To schedule an appointment, please call Sydney Ruffin-Logan at **847.535.6464**.

# 03

## The patient journey

Below is the typical care journey for someone getting a cochlear implant.



# 04

## About cochlear implants

### How cochlear implants work

A cochlear implant is a small, electronic device that can improve hearing. It has internal and external parts. The surgeon puts the internal device behind the ear, just under the scalp, during surgery.

The cochlea is a structure in the hearing part of your inner ear. The implant electrode bypasses damaged parts in the inner ear to directly stimulate the cochlear nerve. The cochlear nerve sends signals to the brain so you can hear. This helps you hear sounds with greater clarity, and understand speech and music.

The internal device is completely under the skin. You cannot see it on the outside. The user then wears a speech processor on the outside that sends signals to the internal device through a magnet.

There are 2 styles of speech processors.

#### Standard speech processor

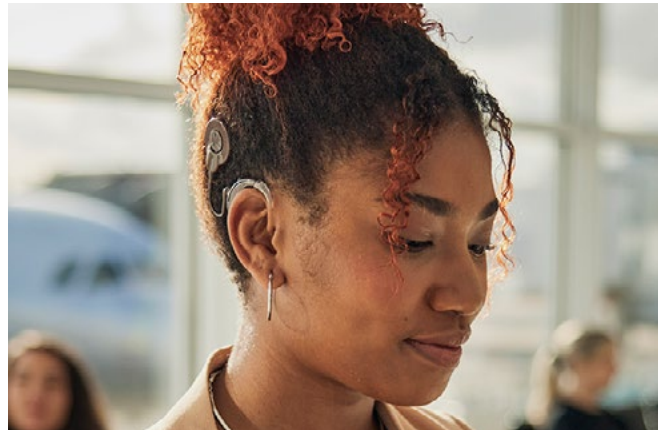


Image courtesy of Cochlear Americas.

#### Off-the-ear speech processor



Image courtesy of Cochlear Americas.

## How a cochlear implant is different from a hearing aid

Hearing aids and bone conduction devices need the cochlea to still work well to receive louder input. With severe hearing loss and damage to the cochlea, the clarity of sound and speech starts to decrease, and hearing aids no longer help as they once did. Hearing aids can only increase volume. They cannot improve clarity.

A cochlear implant works differently. Most often, people who are candidates for cochlear implants report that their hearing aids no longer help as much as they did before. You do not need to be completely deaf to benefit from a cochlear implant.



## Benefits

It is rare for someone not to get any benefit at all. Cochlear implants also may help improve tinnitus (ringing/buzzing) symptoms in many people.

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### For people with 1-sided hearing loss, a cochlear implant may help with:

- › Sound localization (ability to tell where sound is coming from)
- › Hearing in quiet and noisy environments
- › Improvement in tinnitus
- › Reduced anxiety about something happening to the better ear



# 05

## Getting an evaluation

If your hearing aids fit well but do not help as much as you would like, it may be time to think about a cochlear implant.

To see if you are eligible, you must get a cochlear implant evaluation from a cochlear implant audiologist.

### What to expect

The cochlear implant evaluation is a 2-hour visit. You will meet with an audiologist to find out how well or poorly you are currently hearing with your hearing aids.

You will need to bring copies of your most recent hearing tests with you to this visit or upload them to MyNM before your appointment. The care team will do a series of speech tests using words and sentences to check your hearing and clarity. This gives your clinician valuable information about how a cochlear implant may help you.

At the end of the visit, you will find out if a cochlear implant is the right treatment for you. The care team will discuss the benefits for you and answer any questions you have. If you are a candidate and decide you want to have surgery, you will also meet with one of the surgeons on the same day or a separate day.

### After your evaluation

If you decide to have surgery, the care team will help you choose a cochlear implant device. You will talk with the device company's representative before surgery. They will also help you:

- › Navigate the process
- › Connect with other people who have cochlear implants
- › Troubleshoot any software and device issues
- › Teach you about the device parts, software and connecting to audio-streaming features

**We will work with you to choose a surgery date. Before surgery, you will need:**

- › Imaging to review your anatomy (usually a CT scan)
- › A pneumococcal meningitis vaccine (Prevnar 20®) if you have not already had one

# 06

## Cochlear implant surgery

Here is what to expect before, during and after surgery.

### What you need to do before surgery

- › Get imaging scans of your anatomy.
- › Talk with the device company's representative.
- › Meet with an anesthesiologist.
- › Get a pneumococcal meningitis vaccine (Pevnar 20®) if you have not already had one.

#### About the meningitis vaccine

Meningitis is an infection of the fluid and membranes around your brain and spinal cord. Because the surgeon opens your inner ear to insert the electrode, there is a very small risk you could get meningitis.

All people preparing for cochlear implant surgery must have the Pevnar 20 vaccine as suggested by the U.S. Food and Drug Administration. Your care team will give you a prescription for Pevnar 20.

You can get the vaccine at any walk-in pharmacy that offers vaccination. If you have already had this vaccine, you do not need to get it again.

### What to expect

For most people, this will be an outpatient surgery. This means you do not need to stay overnight in the hospital.

The surgery takes about 60 to 90 minutes. You will be completely asleep with general anesthesia.

The surgeon will make a small incision behind your ear(s) to insert the internal device. An important nerve that controls facial movement runs through the ear. The surgeon will use facial nerve monitoring to help protect this nerve during surgery.

After surgery, you will go to a recovery area until you wake up.

You will wear a bandage on the ear for about 1 day.

There is usually only discomfort for a few days. You may take acetaminophen (regular Tylenol®) or ibuprofen to manage pain as directed by your care team.

Your ear may feel slightly full for a few weeks after surgery. There is a small chance you may also have some mild dizziness. This typically will go away as you recover.

## Recovery

Typical recovery is fairly quick. Most people take it easy for 1 to 2 weeks after surgery. There are no travel or dietary restrictions after surgery.

The risk of infection and device problems is very low. We will give you wound care instructions to follow.

# 07

## Activating your cochlear implant

### After surgery

Before we activate your cochlear implant, you will meet virtually with someone from the company who manufactured your device. They are part of what is called your device company's **success team**. They will be an important part of your hearing journey after surgery.

They will teach you about all the device's parts, features and accessories.

### Turning your device on

You will have a visit with the audiologist 1 to 2 weeks after surgery to turn on your device. This is called **activation**.

The audiologist will make a programming plan or "map" with you. This process fine-tunes the device based on how you respond to sounds. This will help the audiologist adjust the device so you get the most benefit from it.

### The audiologist will:

- › Test your hearing with simple sounds first through the implant itself.
- › Adjust the magnet strength for your speech processor.
- › Check all the parts of the device to make sure they are working right.
- › Find the right levels of sound comfort for you.

This programming map may change in your next few visits.

### How your hearing will sound at the beginning

Each person with a cochlear implant hears the first sounds differently. The sounds may range from buzzing to good speech perception right away.

These perceptions should improve very quickly as your brain gets used to this new sound. Over time, the sounds will get more natural.

## Your first year after surgery

You will have 4 to 5 visits with the audiologist in the first year after surgery to adjust your device as needed. You may be able to do some of these visits virtually.

Usually, most cochlear implant settings work well by the 3-month mark. After your 1st year, you may return to see your audiologist annually or even just as needed.

The surgically implanted internal device is designed to last a lifetime. Replacing an internal implant is very unusual. The external part (speech processor) may need to be upgraded every few years or so as technology advances.

## Rehabilitation

The rehabilitation process starts the moment the device is turned on. Studies show that the more you use the device, the better it will work for you. For the best results, use the device from the moment you wake up to right before you go to bed. Use it for at least 12 hours a day.

It is best to be patient, persistent and willing to practice. Each device company has a rehabilitation mobile app. You can also get some online. These applications provide you with auditory training to help your brain learn to hear with the device.

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## How to give your brain as much sound input as possible with the implant

- › Interact with family and friends.
- › Listen to audiobooks, music and podcasts.
- › Watch movies and shows.
- › Practice listening with only the implant and not your other ear.

## Hearing rehabilitation specialists

Speech-language pathologists at Northwestern University in Evanston offer formal auditory rehabilitation for adults with cochlear implants.

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Call **847.491.3165** to learn more. You may be able to meet with them virtually to discuss rehabilitation.

# 08

## Frequently asked questions

### Can I swim with a cochlear implant?

Yes, if you use the right accessories. Headbands and clips are available to keep the processor and equipment in place when you swim. You can get these from the device company.

### Can cochlear implant users use the phone?

Yes. Many cochlear implant users can use the phone.

### Are cochlear implant internal devices safe with an MRI machine?

Although older implanted devices from many years ago were not compatible with an MRI machine, all of the cochlear implant devices made by all 3 implant companies today are safe for MRI.

### Which companies make cochlear implants, and which one is the best?

Three companies currently make implants. We do not favor 1 over the other. You will be able to choose from any of these companies:

#### **Cochlear®**

[cochlear.com](http://cochlear.com)

800.483.3123

#### **MED-EL**

[medel.com](http://medel.com)

888.633.3524

#### **Advanced Bionics**

[advancedbionics.com](http://advancedbionics.com)

877.829.0026

### Where can I get reliable information about cochlear implants?

The American Cochlear Implant Alliance (ACIA) is a research-driven resource. Visit their website at [acialliance.org](http://acialliance.org) to learn more. Northwestern ENT is a proud partner organization of the ACIA.

If you have any questions, please ask your care team.





**Northwestern Memorial Hospital**

Galter Pavilion  
675 North St. Clair Street, Suite 15-200  
Chicago, Illinois 60611  
312.695.4923  
Fax: 312.695.6850

**Northwestern Medicine Central DuPage Hospital**

25 North Winfield Road, Suite 424  
Winfield, Illinois 60190  
630.933.4056  
Fax: 630.933.4057

**Northwestern Medicine Evanston Sherman Avenue**

1630 Sherman Avenue, Suite 200  
Evanston, Illinois 60201  
847.535.6464  
Fax: 224.271.4870

TTY for those who are deaf or hard of hearing: 711

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[nm.org/CochlearImplants](https://nm.org/CochlearImplants)



For healthcare information at your fingertips,  
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