

The treatment of deafness has changed radically since the 1950s. Technological improvements have permitted Otolaryngologists and Audiologists to offer an increasing array of options for improvement of hearing and adjustments to hearing loss. Leading among these improvements is a treatment called cochlear implantation, which assists persons with severe and profound sensorineural hearing loss to communicate using hearing combined with lipreading. Many cochlear implant users attain high levels of speech understanding.

## What are Cochlear Implants?

Cochlear implants are a group of devices that combine electrodes surgically implanted into the cochlea or inner ear with an external sound processor to stimulate the hearing nerve with electrical current.

Since their early introduction in the 1950s, cochlear implants have undergone considerable refinement and are now a widely accepted form of treatment for persons with little or no usable hearing.

## The Cochlear Implant Team

### **Jaclyn B. Spitzer, Ph.D.**

Dr. Spitzer is the Director of Audiology at New York-Presbyterian Hospital, Columbia University Medical Center (CUMC) and Professor of Audiology and Speech Pathology in Otolaryngology/Head and Neck Surgery at CUMC. She has worked with cochlear implants for over 30 years and evaluated their benefits for improving communication.

### Fellowship-trained Surgeons

**Justin Golub, M.D.**

Neurotologist

**Anil Lalwani, M.D.**

Neurotologist

**Lawrence Lustig, M.D.**

Neurotologist and Chairman

**Erik H. Waldman, M.D.**

Pediatric Otolaryngologist

### Audiologists

Cynthia Campos Mackins, Au.D., CCC-A

Ilana Cellum, Au.D., CCC-A

Christie Haug, Au.D., CCC-A

Dean Mancuso, Au.D., CCC-A

Lauren Rouse, Au.D., CCC-A

Allison Soll, Au.D., CCC-A

Amanda Ucci, Au.D., CCC-A

### Early Identification Team

Abbey L. Berg, Ph.D., CCC-A

Maria Jenkins, Au.D., CCC-A

### Cochlear Implant Coordinator

Barbara Siedlecki, RN, MA

Our team regularly consults with Social Work, Psychiatry, Psychology, & Genetics.



Photo courtesy Cochlear Corporation

## **Cochlear Implants at Columbia University Medical Center**

### **The Columbia University Campus of New York Presbyterian Hospital**

Department of  
Otolaryngology/Head  
and Neck Surgery  
Columbia University

### **Columbia University Center for Deafness New York, New York**

#### Three sites:

- 180 Ft. Washington Avenue
- 622 West 168<sup>th</sup> Street
- 51 West 51<sup>st</sup> Street

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## Who is a candidate for a cochlear implant?

A person with the following characteristics is considered a good candidate:

- Moderate to profound sensorineural hearing loss with very poor speech recognition under headphones
- Minimal or no benefit from the use of hearing aids
- Medically able to tolerate cochlear implant surgery, which is equivalent in degree of risk to mastoid surgery
- Realistic understanding of the risks, benefits, and limitations of implantation
- For children, failure to develop good oral language skills despite consistent hearing aid use and intensive habilitative efforts
- A home and educational environment in which oral expression is encouraged and supported

## What is involved in the evaluation?

- Hearing examinations, with and without hearing aids
- Communication evaluation, including tests of speech, reading ability, and language development [for children]
- Dizziness evaluation [for adults], called electronystagmography [ENG]
- Test of function of the hearing nerve, i.e. auditory evoked potentials and promontory stimulation or neural response telemetry
- Neuropsychological tests as indicated
- Radiologic examination
- Considerable discussion of the benefits and limitations of cochlear implants
- For children, the evaluation centers on stimulation for development of receptive and expressive oral language, utilization of auditory information, and/or auditory awareness. A trial with hearing aids or an FM auditory assistive device is generally required for children, as well as speech and language evaluation and trial therapy.

## What are the alternatives?

- Cochlear implants are not the appropriate choice for all hearing impaired persons, even when their hearing is in the severe to profound category.
- Powerful hearing aids, vibrotactile devices, frequency compression aids, and FM assistive listening devices are among the possibilities that should be explored.
- For many people, whether a cochlear implant is appropriate or not, the Implant Team may make recommendations that entail additional training and rehabilitation. Such rehabilitation may include stimulation to maximize use of residual hearing or emphasize visual information, such as speechreading training or learning/supplementing with a sign system.
- For persons who cannot undergo implant surgery due to health limitations, such devices as a vibrotactile aid may be recommended.

## Contact Information

- *Individuals who wish to inquire about cochlear implants should contact the Cochlear Implant Coordinator, **Barbara Siedlecki, RN** by telefax at **212-305-2249** or relay at **212-305-3169**.*

*Barbara can be reached by email at: [Bas2191@cumc.columbia.edu](mailto:Bas2191@cumc.columbia.edu)*

- **For referring physicians**  
Please contact any of the following Cochlear Implant Team members:  
Dr. Spitzer at **212-305-4972**  
Dr. Waldman at **212-305-8933**  
Dr. Golub, Dr. Lalwani or Dr. Lustig at **212-305-8555** for discussion of a possible candidate and information about referral procedures.
- **All of the staff members in our group are familiar with using the relay operator.**
- **Our Website: [Entcolumbia.org](http://Entcolumbia.org)**
- **For more information, please email: [Earimplants@columbia.edu](mailto:Earimplants@columbia.edu)**

## Does my insurance cover a cochlear implant?

- There is a great deal of variability in insurance coverage for cochlear implants. Many forms of insurance have had experience in approving the several phases of cochlear implant evaluation, surgery, and follow-up.
- For insurers who are unfamiliar with cochlear implants, the Implant Team can provide direction on obtaining approval, or will make direct contact with the insurer on your behalf.

## About the Columbia University Center for Deafness

- This Center is dedicated to research about the causes, prevention, and treatments for hearing loss and deafness.
- Current research deals with the rehabilitation of persons with tinnitus [ringing in the ears], quality of life in persons undergoing aural rehabilitation, music perception by users of implanted devices, and the latest generation of cochlear implants.
- The Center is supported by donations, grants, and the Department of Otolaryngology/Head and Neck Surgery of Columbia University.