

Meet Dr. Lambert



Paul R. Lambert, MD
• Professor, Department Chair

Dr. Lambert grew up in Charleston, West Virginia. His undergraduate training was at Duke University and he continued at Duke for Medical School. Paul then moved to California for his residency training in Otolaryngology at UCLA. Following residency, he completed a fellowship in Neurotology at the House Ear Institute with Dr. William House, one of the pioneers in the field of cochlear implants.

After fellowship, Dr. Lambert joined the faculty at the University of Virginia where he was the founder and director of the Cochlear Implant Program. He was on faculty at the University of

Virginia Medical Center for 17 years, directing the Division of Otolaryngology-Neurotology and serving as vice-chairman. He moved to Charleston from Charlottesville, Virginia in late 1999 to become the Chairman of the Department of Otolaryngology at MUSC.

Dr. Lambert performed his first cochlear implant surgery in 1984, and over the past two decades he has implanted more than 300 adults and children using all 3 FDA approved devices. While at MUSC, he has implanted children as young as 10.5 months and adults as old as 91 years.

Dr. Lambert has published more than 100 articles dealing

with ear disease, hearing loss and dizziness. He also has co-authored several textbooks in this field. Dr. Lambert frequently teaches surgical techniques at other universities and at national conferences.

Dr. Lambert has received many awards and honors during his career. For years, he has been listed in "Best Doctors in America" and in "America's Top Doctors." In 2004, Dr. Lambert served as president of the American Neurotology Society, which is the national organization of doctors who limit their practice to the ear and skull base.

Dr. Meyer Responds to Common Questions

How common is dizziness after cochlear implant surgery?

Dizziness is relatively common for a short period after surgery. The dizziness usually subsides after a couple of days. Prolonged vertigo or dizziness is rare, but it can occur. Vertigo that is positional and lasts a few seconds, is consistent with benign paroxysmal positional vertigo (BPPV) and it responds to a canalith repositioning maneuver performed by an Otolaryngologist, Audiologist, or Physical Therapist. Longer lasting vertigo might be from an infection or inflammation in the inner ear. Most patients with prolonged vertigo benefit from staying active and performing exercises to strengthen the brain's ability to compensate from the vestibular abnormality.

Why do I need to be vaccinated for meningitis?

Although rare, unfortunately, meningitis can occur after a cochlear implant. The estimated rate of occurrence is approximately 1 case of meningitis for every 400 cochlear implants. Meningitis can have serious consequences including blindness and even death. We do everything possible in the operating room to minimize the risk of meningitis during and after surgery, but patients are at a slightly increased risk of meningitis for several years after implantation. Patients who lost their hearing from meningitis are at greater risk of getting a second case of meningitis. Patients with an anatomical inner ear abnormality are also thought to be at greater risk for meningitis. We strongly encour-

age patients to be vaccinated against the common forms of meningitis prior to implantation, and we give many patients the appropriate shots at their initial clinic visit.

Can implants be placed through a "minimally-invasive" procedure?

We take a practical approach for placing a cochlear implant. Whether the incision is 4 cm or 6 cm long, and whether or not the surgeon shaves a little hair makes no difference in healing. On the other hand, incisions that are too small, and hair in the incision can make surgery more difficult and time consuming. We make as small an incision and shave as little hair as needed to maximize surgical exposure and our patient's results while minimizing the time it takes our patients to heal.

What should I do if my child gets an ear infection after a cochlear implant?

The typical ear infection that children get is a middle ear infection, or otitis media. We ask parents to contact their child's pediatrician, the referring otolaryngologist, or one of the implant surgeons at MUSC when their child with an implant has signs and symptoms of an ear infection (fever, tugging at the ear, drainage if the eardrum ruptures). Ear infections could possibly lead to problems such as meningitis, and we recommend that they are treated aggressively with oral antibiotics. If there is drainage, antibiotic drops are appropriate.

Ted Meyer

Introducing ... Meredith Holcomb



Meredith A. Holcomb, AuD, CCC-A
Audiologist

We are pleased to announce the addition of Meredith A. Holcomb, AuD, to the MUSC Cochlear Implant Team and the Department of Otolaryngology-Head and Neck Surgery. Meredith recently completed an externship year in Audiology at MUSC. She completed her Audiology training in May 2006, and obtained an AuD from the University of North Carolina at Chapel Hill. Meredith was awarded her BA with dual majors in Psychology and Communication Studies in 2001, also from the University of North Carolina at Chapel Hill.

Carolina at Chapel Hill.

MUSC CI Program

Within the Cochlear Implant Program, Meredith focuses on treatment of congenital deafness and pediatric hearing loss for the many pediatric CI candidates. She has had numerous clinical experiences with cochlear implant patients while at the MUSC Cochlear Implant Program, the Carolina Children's Communicative

Disorders Program and UNC Hospitals' Adult Cochlear Implant Program.

With the addition of Meredith as our third cochlear implant audiologist, we hope to continue the growth of and further expand the pediatric side of the implant program. Her involvement with the educational, outreach, and awareness aspects of the MUSC Cochlear Implant Program will help us provide even more services to the South Carolina pediatric community.

MUSC CI Program News

Dr. Lambert was recently elected as the Vice President of the American Academy of Otolaryngology. This is truly a great honor, and we wish him the best of luck.

MUSC CI Program

Dr. Meyer has recently been named Section Editor for Otology and Medical Issues for Ear and Hearing.

MUSC CI Program

In August 2005, Ted, Jack, and Abby presented two papers entitled "Modeling subject responses in a reproducible noise masking task: preliminary findings with cochlear implant users," and "Using NRT to predict stimulation levels: Pediatric considerations" at the 2005 Conference on Implantable Auditory

Prostheses in Pacific Grove, CA.

MUSC CI Program

The MUSC CI team put on a cochlear implant forum in Florence, SC, in March 2006. More forums are planned for the upcoming year. If you would like us to visit your community, please contact Pam at teacheyp@musc.edu.

MUSC CI Program

Abby attended and was a panel member for a one-day seminar for early intervention and educational professionals called "Facilitating Spoken Language Development for Young Children with Hearing Loss" in April 2006. This seminar was sponsored by Cochlear Americas through their HOPE Program (Habilitation

Outreach for Professional Educators) and was the first of four seminars designed to educate early interventionists and other professionals working with hearing impaired children how to maximize children's spoken language outcomes with a cochlear implant and/or hearing aids. Heather Whitestone McCallum, Miss America 1995, was present to speak about services and opportunities available now that were not when she was first diagnosed with severe to profound sensorineural hearing loss. The seminar was a huge success with over 100 participants.

MUSC CI Program

In June 2006, Dr. Bruce Gantz, the Brian F. McCabe Professor and Chairman of the

Department of Otolaryngology at the University of Iowa, delivered the Adkins Otology lecture at the 2006 MUSC Magnolia Conference. Dr. Gantz spoke about developments in hearing preservation with a short cochlear implant and the benefits of combining electrical and acoustical hearing.

MUSC CI Program

Dr. Richard T. Miyamoto, the Arilla Spence DeVault Professor and Chairman of the Department of Otolaryngology at Indiana University will give the 2007 Adkins Otology lecture. Dr. Miyamoto will be the president of the American Academy of Otolaryngology in 2007, and we greatly appreciate him taking time from his busy schedule to visit Charleston.

2006 Cochlear Implant Picnic

Each year the MUSC Cochlear Implant Center sponsors an annual picnic for our cochlear implant recipients and their families. This year's picnic was scheduled for the spring, but the park was not available due to a substantial construction project. The

picnic is scheduled for a Saturday in October, depending on the weather this hurricane season. The picnic will be held again at Charles Town Landing State Park at the Marsh View Shelter.

Recipients can enjoy plenty of good food and fun activities in the shelter area or can enjoy the various activities the park has to offer, including a petting zoo, boat rides, bicycle rentals, and a complete tour around the park. Admission is always free when you

bring the ticket that is sent in the mail in the months prior to the event. We look forward to seeing you and your family at the picnic!

Abby Connell

Calling All Speech and Hearing Professionals !!!

How many of us have implant candidates in our practice or school or know of someone in our communities that receive limited benefit from hearing aids. Based on population statistics, at least 5000 people with severe-to-profound sensorineural hearing loss live in South Carolina. How many of those patients are doing well with hearing aids? How many can no longer talk on the telephone? How many obtain no benefit from their hearing aids and have stopped wearing them?

The answers to these questions are difficult to ascertain, but each of us sees several adults in our practices that fit these criteria. Most of the adults have had medical clear-

ance from an Otolaryngologist to be fit with hearing aids whether they get much benefit from them or not. Many are cochlear implant candidates.

Children are another story. The majority of children with significant hearing losses are picked up early through infant hearing screening programs. Unfortunately, many parents do not follow up with recommendations for hearing tests, hearing aids, and speech therapy for their children.

We have recently evaluated a large number of older children who were identified with significant hearing loss years ago as young children, but they were not thought to be candidates for a cochlear implant for many reasons. Many of these children no

longer make progress with their hearing aids. Unfortunately, some are not appropriate cochlear implant candidates because of their advanced ages and lack of language development. Children making good gains in developing spoken language with hearing aids should be watched closely to determine when a cochlear implant should be considered, while those who are not making gains with appropriately fit hearing aids may be implanted sooner.

The earlier we can evaluate children with hearing loss the better. We as a group need to be more proactive in making prompt diagnoses, developing management plans for children with hearing loss, and we need to be diligent about educating families about the need for aggressive follow-up for

their children with significant hearing loss. Families need to be informed about all options available for hearing rehabilitation including cochlear implants.

Please help us identify and educate adults and families with children with severe-to-profound sensorineural hearing loss as early as possible to maximize their benefits with cochlear implants.

Please send any and all audiograms and/or inquiries to Abby Connell, M.Ed., CCC-A at connelac@muscc.edu, 843-792-8376, or fax 843-792-7388. We are always here to help you determine if your patients may benefit from a cochlear implant.

Ted Meyer

New Cochlear Implant Program

2006 has been a time of continued firsts for our implant program. We implanted our first patient under the age of 11 months. We implanted our first patient from overseas. The patient is fluent in two languages and she and her family were interested in a second implant.

The MUSC CI program has grown tremendously over the past 6 years. Between 2000-2002, we implanted over 50 patients. Between 2003-2005, we implanted over 100 patients. In the next 3 years, we will implant more than 150 patients.

In June 2006, I began discussion with the Ralph H. Johnson

Veterans Affairs Medical Center (RHJVAMC) in Charleston to provide cochlear implants to our veterans with severe-to-profound sensorineural hearing loss. We already provide audiological services to thousands of veterans with hearing loss. Many of the patients have a hearing loss that is significant enough to require

hearing aids. Of the patients who wear hearing aids, we have identified more than 50 patients who are cochlear implant candidates. We look forward to working with the RHJVAMC to provide cochlear implants.

Ted Meyer

Camp Communication

Camp Communication Vacation is a week-long summer day camp for children ages 4-12 with hearing loss. The camp provides language stimulation in a fun and interactive environment as well as social interaction among peers. CCV offers two treatment approaches: Total Communication and Auditory-Verbal. This year marks Camp Communication's 8th year and the camp theme is "Let's Hear All Year" focusing on the 4 seasons.

The 2006 Camp was July 17-21 at the Second Presbyterian Church in Charleston. Please contact Nevitte Swink for further information about the 2007 Camp. 843-792-6136



Dr. King bilateral update

One year later – where has the time gone? It seems like only yesterday that I had the surgery to receive a second cochlear implant in my left ear! I distinctly remember the initial fitting session because I was amazed at the similarity of the sound of the new cochlear implant compared to my first one despite not having heard in the left ear since I was a toddler. The first few months were a little tough in the sense that my left ear was not thrilled at the prospect of being bombarded with sound on a routine basis; however, I stuck it out.

One of the first things I noticed about hearing bilaterally was the immediate improvement in the quality of sounds. Everything sounds fuller, richer, and more vibrant with two ears.

I cannot believe what I have been missing all these years! The biggest surprise was when I hooked an MP3 player to both cochlear implants. I had no idea that music could actually sound better! I spent weeks listening to music because it was almost as if I had never heard my entire collection of CDs before.

Another improvement is the ability to pick out conversation in a restaurant. The background noise doesn't disappear, but I am able to somehow focus on what is being said in the middle of the hubbub of a busy restaurant.

The new processor is much more water resistant than the older style that I currently wear on the right ear. I am now able to hear in more situations because I am not forced to go silent when I take the older processor

off to prevent damage from sweat. It is truly amazing to be able to hear during karate workouts that were once silent.

After wearing both processors for a few months, I was able to distinguish which side sounds were coming from. This is something that I have never been able to do before! I still find myself visually scanning my environment to detect sound locations out of habit, but that will change with more experience.

The only downside to having two cochlear implants is that the batteries never expire together! It is somewhat bothersome to deal with double the maintenance, but I am constantly reminded of the benefits of hearing with two ears.

Although my test scores in the booth would suggest that the sec-

ond cochlear implant has not resulted in significant improvement in my listening abilities, my experience indicates otherwise. The tests in the booth are not sensitive enough to measure the various ways that binaural listening improves my quality of life.

I have been asked if I would suggest getting a second implant to another patient. My answer would be absolutely yes as long as it is understood that everyone's experience is different. That is, I believe that most patients can benefit from binaural listening; however, the benefits that a person experiences may or may not be the same as what others experience. Oh yeah... don't forget to buy extra batteries!

MUSC Parent Support Group

for families of hearing impaired children



Questions and Answers with Cochlear Implant users

MUSC Parent Support Group

Thanks to all who attended the Summer Parent Support Group! Families who attend our meetings demonstrate a great deal of dedication to their children with cochlear implants through continual education on hearing loss and

communication. The parents had the opportunity to talk with the enthusiastic, athletic, and well spoken Elise Foresbourg, a teenage cochlear implant user. Mac Gibson, an attorney in Charleston with a cochlear implant attended the meeting

as well. Mr. Gibson is a former attorney for National AG BELL. MUSC's own Dr. Jack King, an audiologist with bilateral cochlear implants, offered a tremendous amount of first-hand experience to parents. We plan to incorporate the next parent

support meeting with the MUSC CI Picnic, and we will resume the parent support group meetings next winter. Most meetings are held at Sullivan's Island Elementary School.

Nevitte Swink

For our South Carolina professional partners... Sixth MUSC Auditory-Verbal Therapy Conference and Practicum June 2008

This June, the MUSC Cochlear Implant Center hosted the 5th annual Auditory-Verbal Therapy Conference and Practicum. This week-long conference is designed to introduce the principles and practices of using an auditory-verbal communication mode for individuals with hearing impairment.

While there are various modes

of communication, the auditory-verbal method is preferred for helping children with cochlear implants and/or hearing aids to learn how to listen and speak through audition alone. Research has shown that children with hearing loss in auditory-verbal therapy programs tend to develop better speech and language skills than those in other communication mode therapy

programs. There are very few Certified Auditory-Verbal Therapists in our state, therefore the MUSC AVT Conference and Practicum is designed to introduce this methodology to teachers of the hearing impaired, speech-language pathologist, and any other professionals working with children with hearing loss.

The next MUSC AVT Confer-

ence will be in 2008. We hope to be able to offer a tuition stipend to some of our South Carolina professionals with a generous grant from the South Carolina Department of Education and the South Carolina AG Bell Association.

Abby Connell, Nevitte Swink

2006 South Carolina AG Bell Meeting

The 2005 South Carolina AG Bell meeting was held on Folly Beach last October. The meeting focused on the School Age Child. We were very fortunate to have Kathryn Wilson and

Beth Walker both Certified Auditory Verbal Therapists speaking at our conference.

This year's AG Bell conference is scheduled for October 13-14, 2006 in Greenville SC. David

Sindrey, MCISc, Cert-AVT, is speaking on Auditory-Verbal Therapy with children. He focuses on activities and games to help facilitate expressive and receptive language skills through audition.

Please email your mailing address to: swink@musc.edu and a detailed registration form will be sent to you.

Nevitte Swink

Research Opportunities: MUSC Cochlear Implant Laboratory

We would like to thank all of you who have participated in our research projects. Progress continues on the studies that have been described in the past CI Newsletters. We have recently joined into clinical trials with all three device manufactures.

Project 5: Clinical Study of the Nucleus BEAM Adaptive Two-Microphone Technology.

MUSC was the first center in the United States to receive IRB approval for the BEAM study. The study examines the effects of the BEAM technology on speech perception in patients using the Cochlear Nucleus Freedom cochlear implant. If you have a Nucleus Freedom device and are interested in participating in this study, please let us know.

Project 6: Bilateral Benefit in Adult Users of the HiRes 90K Bionic Ear System.

MUSC is one of approximately 18 centers involved in this study with Advanced Bionics to evaluate simultaneous implantation of bilateral cochlear implants in adults. Bilateral implantation is occurring more often, and more research is necessary to determine candidacy

and ultimate benefit with two cochlear implants. If you already have a cochlear implant, you are not eligible for this study, but if you know an adult who is considering a cochlear implant, please contact us.

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Introducing ... Andrea Hannan



Andrea D. Hannan, AuD, CCC-A
Audiologist

We welcome the addition of Andrea D. Hannan, Au.D. to the MUSC Cochlear Implant Team within the Department of Otolaryngology-Head and Neck Surgery. Andrea joined MUSC last year as a Clinical Instructor in Audiology and will be expanding her professional activities to assist with research efforts involving both pediatric and adult cochlear implant recipients.

Andrea completed her B.A. in Speech and Hearing Sciences in

1990, and her M.A. in Audiology in 1992, at the University of Maryland at College Park. She received her AuD in August of 2003 from the Arizona School of Health Sciences in Mesa, Arizona.

MUSC CI Program

Andrea's background in cochlear implants has included clinical experiences at the House Ear Institute in Los Angeles, Cali-

fornia, The Methodist Hospital/Baylor College of Medicine in Houston, Texas, and The New York Presbyterian Hospital/Columbia Presbyterian Medical Center in New York, New York.

We look forward to continued growth in our research efforts as we consider the technological and patient/performance characteristics of the implant systems being used by our patients.

For clinical questions:

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Research Cont.

Project 7: Virtual Channels with Sequential Stimulation in the CIS+ Strategy – Med-EI.

MUSC is the only academic center in the United States participating in this clinical study. An important area of research in the cochlear implant field is determining how to encode and deliver better spectral, or frequency, information through the same number of implanted electrodes. Currently, cochlear implants are limited to 12-22 implanted electrodes. Through different strategies, it is possible to stimulate adjacent electrodes to provide the patient with a percept that is somewhere in between the percept attached to the individual electrodes. The implications of this technology are tremendous with expected benefit in music perception and detection of speech in noise. If you use a Med-EI Pulsar or Combi-40+ device and would like to participate in this study, please let us know.

Ted Meyer

MUSC CI Program

Publications and Presentations

Publications:

- Meyer, T.A., Canty, P.A., Wilkinson, E.P., Hansen, M.R., Rubinstein, J.T. & Gantz, B.J. (2006). Small acoustic neuromas: Surgical outcomes versus observation or radiation. *Otology & Neurotology*, 27 380-392.
- King JE, Polak M, Hodges AV, Payne S, and Telischi FF. Use of neural response telemetry (NRT) measures to objectively set the comfort levels (C levels) in the Nucleus 24 cochlear implant. *J Amer Acad Aud* 17(6):1-11, 2006.
- King JE, Gonzalez JE, and Fuller MI. Development of a vibrotactile tasking device for use in vestibular assessment. *J Vest Res* 15:1-11, 2006 .
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- White DR, Choo DI, Stroup G, Schleiss MR. (2006) Effect of cidofovir on cytomegalovirus-induced hearing loss in an animal model. *Arch Otolaryngol Head Neck Surg*.
- White DR, Choo DI. (2005). Otitis Media. In Rakel RE, Bope ET (eds): *Conn's Current Therapy 2005*, Philadelphia, PA: Elsevier Saunders Inc., 223-225.
- Gantz, B.J., Meyer, T.A., Redleaf, M.I., & Menezes, A.H. (2005) Management of clivus and parasellar space neoplasms. In R.K. Jackler, D.E. Brackmann (eds.) *Neurotology*, pp. 1047-1069.
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- Meyer, T.A., Strunk, C.L., & Lambert, P.R. (2005). Cholesteatoma. In Bailey, B.J. (Ed). *Head and Neck Surgery - Otolaryngology*, 4th Edition. 2081-2092.

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- Meyer, T.A., King, J.E., Connell, A.C., Stahlke, J.R., Lawrence, V.C., & Hornsby, H.K. (2005). Modeling subject responses in a reproducible noise masking task: preliminary findings with cochlear implant users. 2005 Conference on Implantable Auditory Prostheses. Pacific Grove, CA.
- King, J.E., Meyer, T.A., Blair, P., Cunningham, S., Connell, A.C., & Hodges, A.V. (2005). Using NRT to predict stimulation levels: Pediatric considerations. 2005 Conference on Implantable Auditory Prostheses. Pacific Grove, CA.