Why and How A Busy Clinical Audiologist Maintains Best Practices in Audiology

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Why and How A Busy Clinical Audiologist Maintains Best Practices in Audiology

- What is best practice in audiology?
- Why follow best practices?
- Where do you find research evidence?
- How can a busy clinical audiologist keep up to date with research evidence?

Best Practice is Evidence-Based Practice (EBP)

- Evidence-based practice is "the integration of best research evidence with clinical expertise and patient values" (Sackett et al, Evidence-Based Medicine: How to practice and teach EBM. London: Churchill, 2000, p. 1)
- EBP is a five step process
  - Focused clinical question
  - Evidence is sought to answer the question
  - Clinician evaluates the quality of evidence
  - Clinician must integrate the evidence with the patient's clinical findings and preferred outcome to develop intervention plan
  - Document outcome and identify ways to improve it

Evidence-Based Practice: Categories of Research Evidence (ASHA, 2004)

- **1a:** Well-designed meta-analysis of randomized controlled trials
- **1b:** Well-designed randomized controlled trials
- **2a:** Well-designed controlled studies without randomization
- **2b:** Well-designed quasi-experimental studies
- **3:** Well-designed non-experimental studies, i.e., correlational and case studies
- **4:** Expert committee reports, consensus conferences and clinical experience

Evidence-Based Practice is Standard of Care: Definition of Standard of Care (SOC)

- Is consistent with local, regional or national clinical practice
- Follows peer-reviewed guidelines or recommendations on clinical practice approved by national
  - Multi-disciplinary professional committees or panels
  - Professional organizations,
- Is consistent with statements of
  - Scope of Practice
  - Code of Ethics
- Is in compliance with national health care guidelines for clinical practice and services

Best Practices in Audiology
Professional Practice Standards in Australia
(http://www.audiology.asn.au)

- Part A: Practice Operations
  - Preliminaries
    - ✓What are the Audiology Australia PPSs?
    - ✓Why are the Audiology Australia PPSs important?
    - ✓The Australian Charter of Healthcare Rights
  - Client Centred Care
  - Co-Ordination of Safety and Quality of Care
  - Physical Environment and Resources
  - Co-Ordination of Clinical and Professional Issues
  - Governance and Business Management

Best Practices in Audiology
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- Part B: Clinical Standards (July 2013)
  - Preliminaries
    - ✓What are the Audiology Australia's recommended standards for clinical practice?
    - ✓The WHO ICF (World Health Organization Classification of Functioning, Disability, and Health)
    - ✓Structure of recommended standards for clinical practice
  - Public Health and Primary Health Care Strategies
  - Audiological Diagnostic Evaluation
  - Audiological Rehabilitation
  - Appendix
- Guidelines for Infection Control

Best Practices in Audiology
Professional Practice Standards in Australia
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- **Public Health and Primary Health Care Strategies**
  - Advocacy for Hearing Healthcare
  - Consultancy
  - Hearing Loss Prevention
  - Hearing Loss Detection
  - Teleaudiology
  - Advanced Scope of Practice - Ear Canal Management
  - Advanced Scope of Practic – Diagnosis of Otitiis Media Conditions

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- **Audiological Diagnostic Evaluation**
  - Standard Audiological Assessment - Adult
  - Standard Assessment - Paediatric
  - Advanced Audiological Assessment
    - ✓Assessment for neonates
    - ✓Pseudohypacusis/functional hearing loss
    - ✓Acoustic shock, tonic tensor tympani syndrome (TTTS) & hyperacusis
    - ✓Balance assessment
    - ✓Central auditory processing assessment
    - ✓Intraoperative neurophysiologic monitoring
    - ✓Tinnitus assessment

Best Practices in Audiology
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- **Audiological Rehabilitation**
  - Assessment of Needs
  - Counseling
  - Amplification Strategies – Hearing Aids
  - Amplification Strategies – Assistive Listening Devices (ALDs)
  - Amplification Strategies – Sensory Devices
  - Amplification Strategies – Implantable Devices
  - Professional Liaison
  - Multidisciplinary Management
  - Outcomes Measures & Evaluation
  - Communication Training

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- **Audiological Rehabilitation *(continued)***
  - Rehabilitation for Aboriginal & Torres Strait Islander People
  - Paediatric Re/habilitation
  - Acoustic Shock, TTTS and Hyperacusis Rehabilitation
  - Central Auditory Processing Disorder Re/habilitation
  - Tinnitus Management
  - Advanced Scope of Practice – Vestibular Rehabilitation
  - Appendix

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Evidence-Based (Best) Practice in Audiology: Focusing on the Goal, Not the Process

Identification →

- Screening
- History
- Self-Referral
- Professional referral

Evidence-Based (Best) Practice in Audiology: Focusing on the Goal, Not the Process

Identification → **Diagnosis**

- Screening
- History
- Self-Referral
- Professional referral

- Hearing loss
- ANSD
- APD
- Tinnitus
- Vestibular disorder

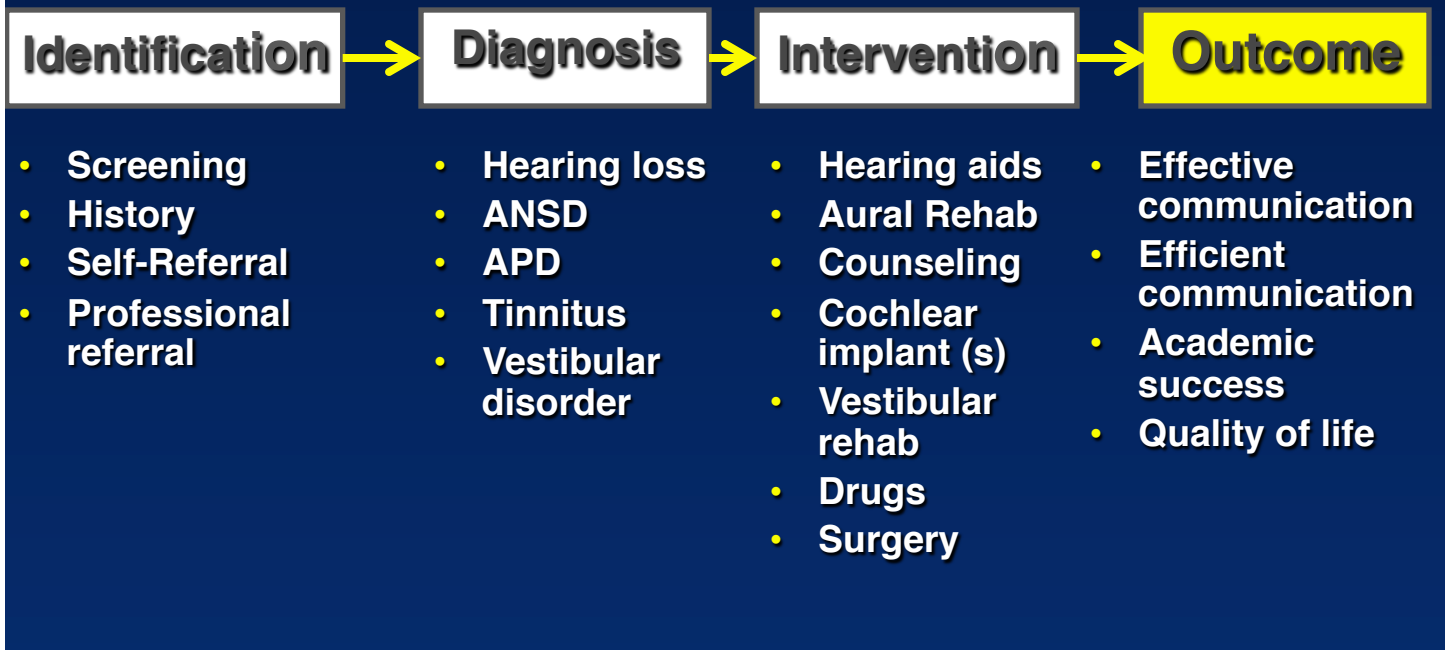
Evidence-Based (Best) Practice in Audiology: Focusing on the Goal, Not the Process

- Screening
- History
- Self-Referral
- Professional referral

- Hearing loss
- ANSD
- APD
- Tinnitus
- Vestibular disorder

- Hearing aids
- Aural Rehab
- Counseling
- Cochlear implant (s)
- Vestibular rehab
- Drugs
- Surgery

Evidence-Based (Best) Practice in Audiology: Focusing on the Goal, Not the Process



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Where Do You Find Research Evidence to Guide Best Practices?

- Clinical guideline documents summarize evidence-based best practice
- Perform a literature search … it's easy, quick, and actually fun
  - Choose your key words carefully
  - Search for review articles
  - Search for articles by a specific researcher
  - Request the article (s) via email
- Search for special issues of audiology journals on the topic you are interested in
- Attend audiology conferences in your clinical specialty area

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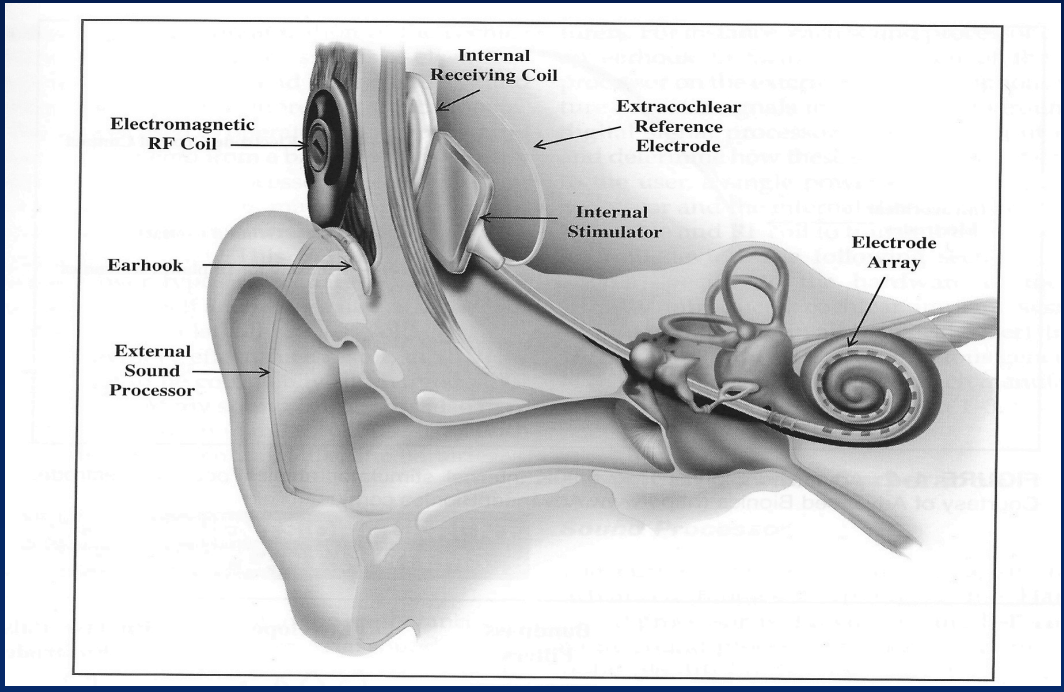
Best Practices in Audiology Example:
Cochlear Implant Technology with Standard of Care Rehabilitation
(Hall JW III. (2014). *Introduction to Audiology Today.* Boston: Pearson)



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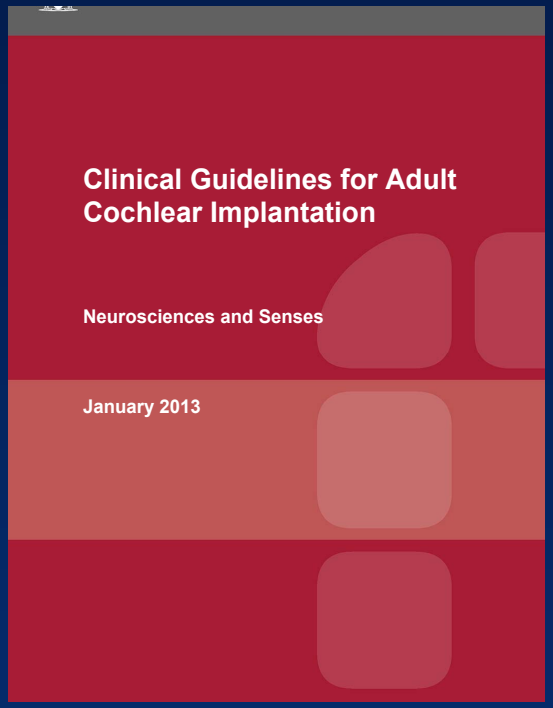

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Dr Stephen Rodrigues	Chairperson - ENT Advisory Group Consultant Otologist and Cochlear Implant Surgeon Royal Perth Hospital

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The following staff from the Health Networks Branch, Office of the Chief Medical Officer Department of Health contributed to this document;

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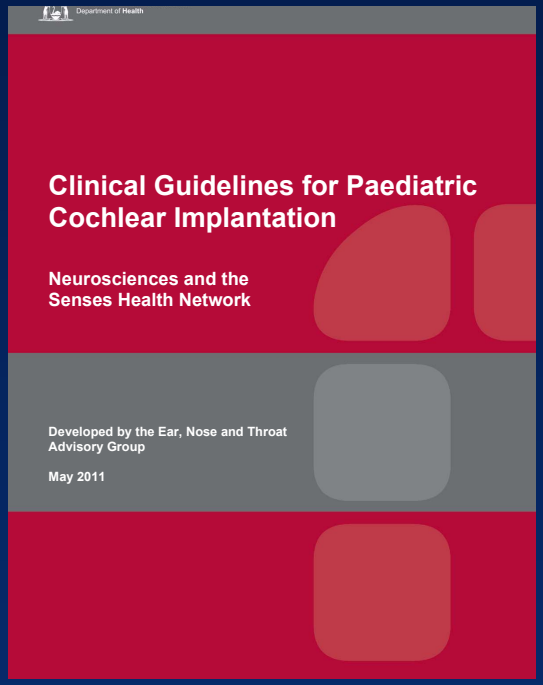
Where Do You Find Research Evidence to Guide Best Practices?



Evidence-based practice for cochlear implant referrals for infants

Ching, TYC, King A, Dillon H
National Acoustic Laboratories

Summary:

This report provides an update on the importance of early implantation for spoken language development of children. The evidence calls for early referral of children with severe to profound hearing loss for cochlear implant candidacy evaluation in order to optimise the potential for spoken language development.

Background:

The implementation of Universal Newborn Hearing Screening has led to an increase of children identified with hearing loss soon after birth. For infants diagnosed with severe or profound hearing loss, a major habilitative consideration is referral for cochlear implant candidacy evaluation. It is generally agreed that early implantation leads to higher levels of spoken language or more rapid progress, but how early is "early"?

A sizable published literature on the effect of age of implantation on language development has appeared since 2000, with previous work showing the benefit of implantation before age 5 years (e.g. Kirk et al, 2002; Svirsky et al, 2004), before age 2 years (e.g. Manrique et al, 2004), and more recently before age 12 months (e.g. Tait et al, 2007; Dettman et al, 2007; Tomblin et al, 2005). Typically, results on small numbers of children were reported. For instance, Tomblin et al (2005) measured receptive and expressive language of 27 profoundly deaf children over 3 years, with only 1 child implanted under 12 months of age. The results showed that children who received an implant earlier are more likely to develop language at a rate commensurate with normal-hearing peers. Tait et al (2007) reported preverbal communication of 10 deaf children who received a cochlear implant before the age of 1 year showing that they developed preverbal communicative behaviours to an extent that was not significantly different from those of age-matched normal-hearing children. Dettman et al (2007) showed that 11 children who received an implant before 12 months of age developed language at a normal rate whereas children who received an implant between 12 and 24 months of age exhibited slower progress. The former group received hearing aid fitting at an age that was significantly earlier than that of the latter group. It is not clear whether the difference in rate of development was related to the differential age of hearing aid fitting for the two groups of children.

Child Outcomes study: findings to date

The Child Outcomes study is aimed to follow the development of 400 hearing-impaired children over a period of five years (for details: www.outcomes.nal.gov.au). Interim findings of 41 children with cochlear implants measured at 6 months after cochlear implantation are now available (Ching et al, accepted). The three-frequency average (3FA) hearing thresholds for all children were 90 dB HL or greater in the implanted ear.

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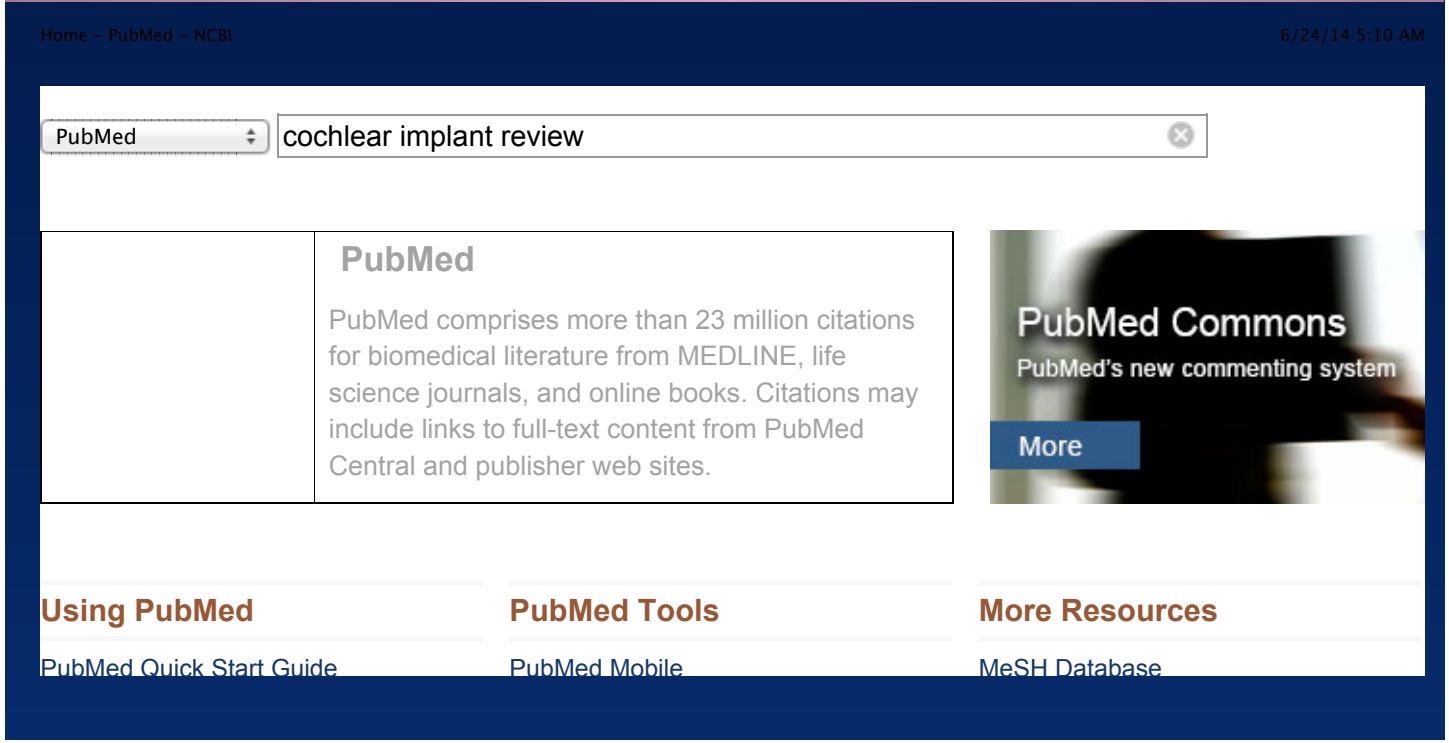
www.nlm.nih.gov

Where Do You Find Research Evidence to Guide Best Practices?

www.nlm.nih.gov *"Cochlear Implant Review"*



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www.nlm.nih.gov *"Cochlear Implant Review"*

JAMA Otolaryngol Head Neck Surg. 2013 Mar;139(3):265-72. doi: 10.1001/jamaoto.2013.1744.

FULL TEXT JAMA Otolaryngo...

Cochlear implantation in adults: a systematic review and meta-analysis.

Gaylor JM[1], Raman G, Chung M, Lee J, Rao M, Lau J, Poe DS.

Author information

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Abstract

IMPORTANCE: Sensorineural hearing loss is the third leading cause of years lived with disability worldwide. **Cochlear implants** may provide a viable alternative to hearing aids for this type of hearing loss. The Coverage and Analysis Group at the Centers for Medicare & Medicaid Services was interested in an evaluation of recently published literature on this **topic**. In addition, this **meta-analysis** is to our knowledge the first to evaluate quality-of-life (QOL) outcomes in adults with **cochlear implants**.

OBJECTIVE: To evaluate the communication-related outcomes and health-related QOL outcomes after unilateral or bilateral **cochlear implantation** in adults with sensorineural hearing loss.

DATA SOURCES: MEDLINE, Cochrane Central Register of Controlled Trials, Scopus, and previous reports from January 1, 2004, through May 31, 2012.

STUDY SELECTION: Published studies of adult patients undergoing unilateral or bilateral procedures with multichannel **cochlear implants** and assessments using open-set sentence tests, multisyllable word tests, or QOL measures.

DATA EXTRACTION: Five researchers extracted information on population characteristics, outcomes of interest, and study design and assessed the studies for risk of bias. Discrepancies were resolved by consensus.

RESULTS: A total of 42 studies met the inclusion criteria. Most unilateral **implant** studies showed a statistically significant improvement in mean speech scores as measured by open-set sentence or multisyllable word tests; **meta-analysis** revealed a significant improvement in QOL after unilateral **implantation**. Results from studies assessing bilateral **implantation** showed improvement in communication-related outcomes compared with unilateral **implantation** and additional improvements in sound localization compared with unilateral device use or **implantation** only. Based on a few studies, the QOL outcomes varied across tests after bilateral **implantation**.

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How can a busy clinical audiologist keep up to date with research evidence?

- Maintain an electronic file with articles to read
- Set aside an hour a week to read a journal article
- Periodically scan the internet for new information
- Share what you find with your clinic “mates”
- Participate in a regular “journal club”

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Thank You! … *Questions?*