



Taking Control of the Information Jungle:

NHS Evidence – ENT and Audiology

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Overview

- Beware Information Overload
- The Specialist Collection
 - Background, content, features
- Annual Evidence Update for Hearing
- Uncertainties – filling the evidence gaps
- Questions

The Need for Knowledge

- **Specific information needs**
- **Minimal time to find reliable sources**





The Literature Jungle

“The medical literature can be compared to a jungle. It is

- **fast growing,**
- full of **dead wood,**
- sprinkled with **hidden treasure**
and
- infested with **spiders and snakes.”**

*Peter Morgan, Scientific Editor,
Canadian Medical Association*



Information Overload

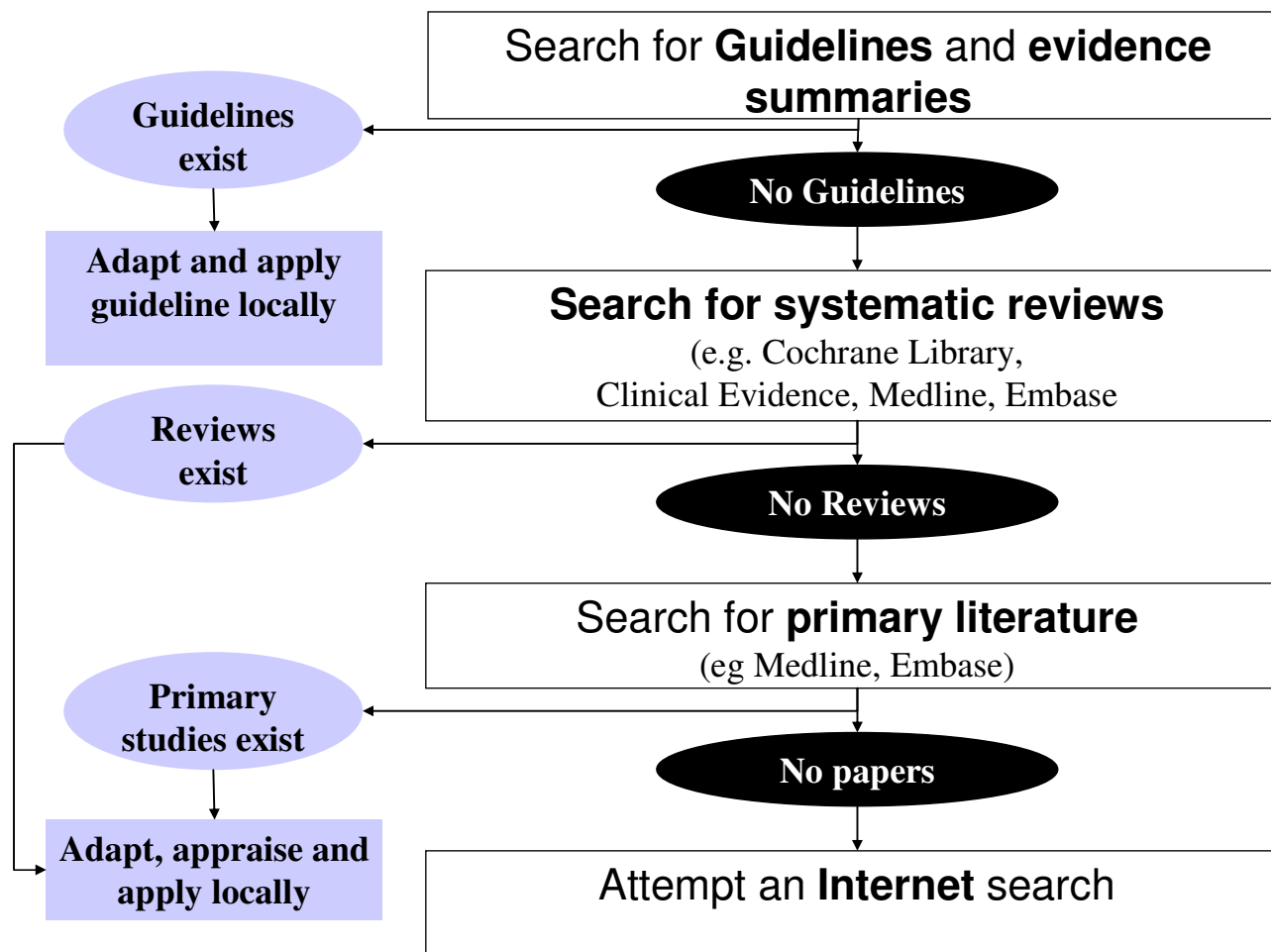
- 30,000 biomedical journals in publication
- 3000 audiology articles in 2009
- Audiology 100,000 Medline records
- *Misinformation* overload?

When a Clinical Question arises do you:

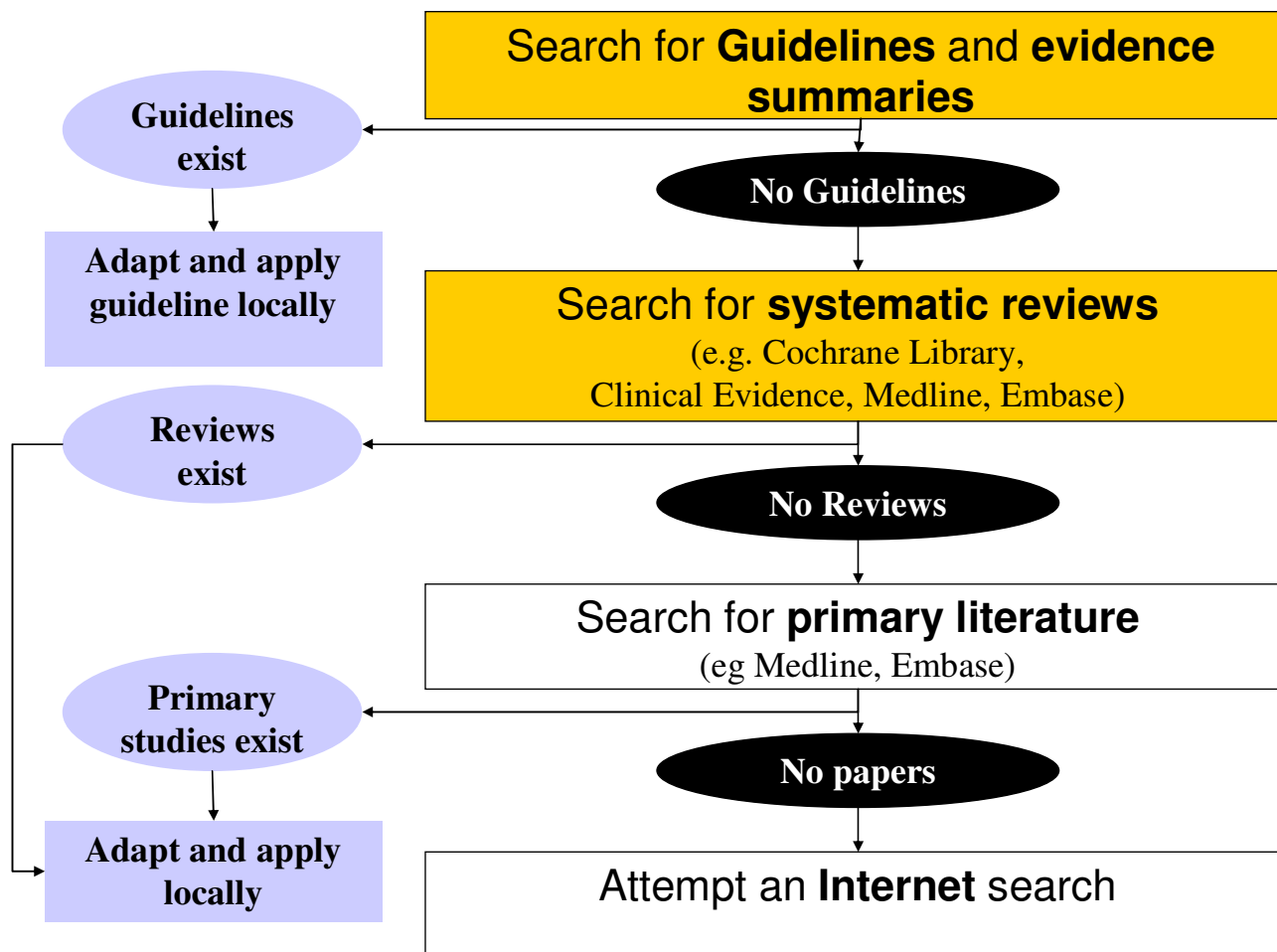


- A. Rely on your own experience
- B. Consult a colleague
- C. Conduct a search of the literature

Searching Hierarchy



Searching Hierarchy

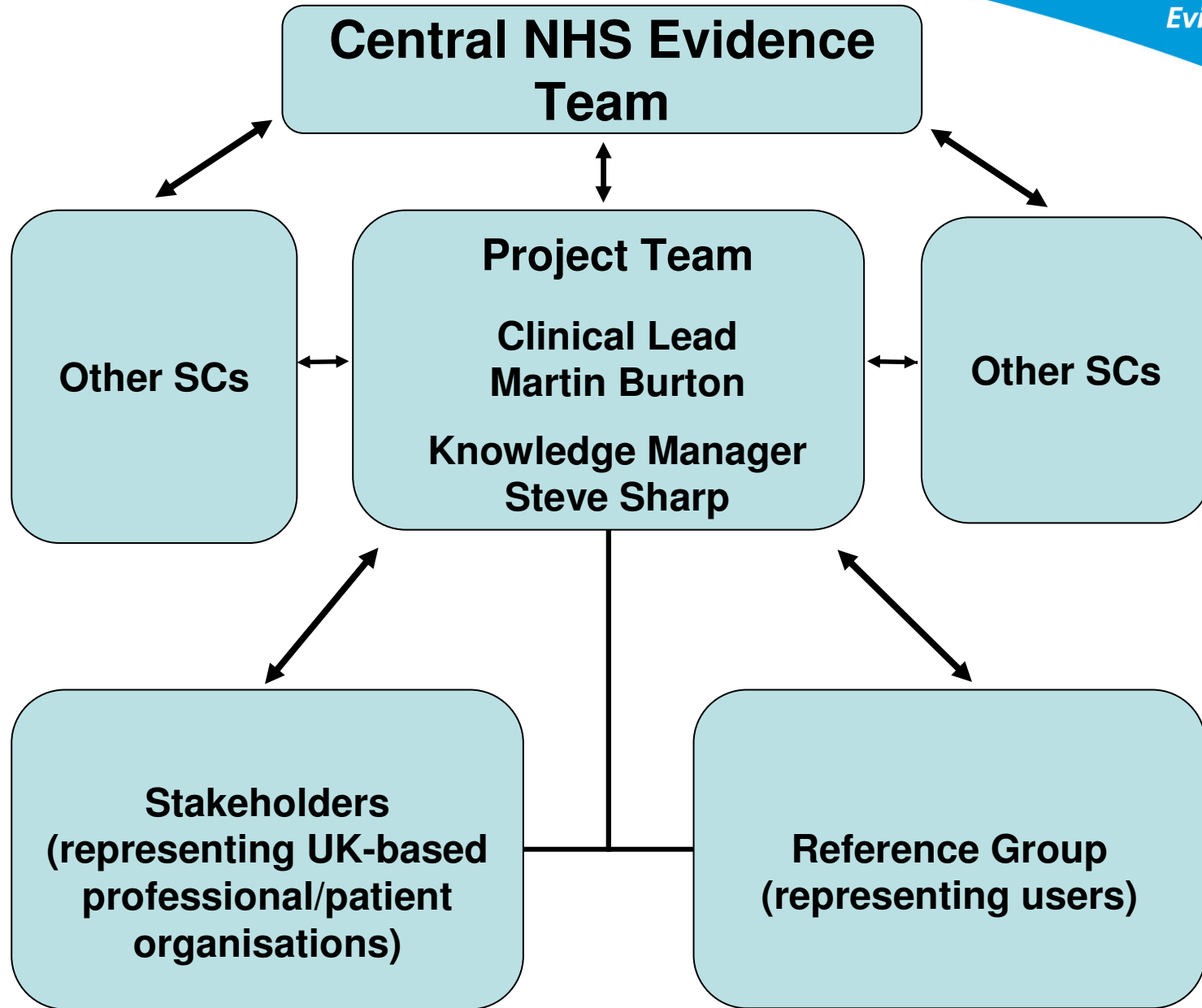




Specialist Collection for ENT and Audiology

- Launched February 2005 to support evidence based decision making
- Serves a multidisciplinary audience
- Expanding collection with emphasis on quality assured, up-to-date, accessible resources
- Logical layout for browsing or searching







Partner Organisations

- Action for Tinnitus Research
- Association of ENT Trainees
- British Academy of Audiology
- British Acoustic Neuroma Association
- British Association for Paediatric Otolaryngology
- British Association of Audiological Physicians
- British Association of Paediatricians in Audiology
- British Association of Educational Audiologists
- British Association of Teachers of the Deaf
- British Cochlear Implant Group
- British Deaf Association
- British Rhinological Society
- British Society of Audiology
- British Society of Hearing Aid Audiologists
- British Tinnitus Association
- Cochrane Cancer Network
- Cochrane ENT Group
- The Ear Foundation
- ENT.UK
- Hearing Concern
- Meniere's Society
- Medical Research Council
- National Cochlear Implant Users Association
- National Deaf Children's Society
- NHS Direct
- RNID
- RCSLT
- RCN ENT Forum
- RNTNE Hospital



Resources Included

- Guidelines
- Systematic Reviews
- Reference and learning Materials
- High quality patient information
- Organisations, events, news
- Links to contents pages of major journals



Search Search

NEWS **EVENTS** **QUALITY POLICY**

- ▣ Conditions
- ▣ Therapeutic Interventions
- ▣ Specialities
- ▣ Evidence Based Practice Resources
- ▣ Current Awareness
 - Service Delivery
 - Education and CPD
- ▣ Organisations
 - Image Resources

Welcome to NHS Evidence - ENT and audiology

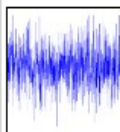
Your unique gateway to the best available evidence in ENT, audiology and thyroid disorders

For each of the topics in the left hand menu, resources are categorised into:

- **Guidance & pathways** - for clinical and service guidelines
- **Evidence** - Systematic Reviews, evidence updates and other evidence-based research
- **Reference** - for specialist websites, organisations, news items and events
- **Education/CPD** - for learning materials and online courseware
- **Patient Information** - for patient resources and support groups.

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Now Available - Annual Evidence Update on Hearing Disorders



The 2010 Annual Evidence Update on Hearing Disorders is now available.

[Update your knowledge here](#)

Latest News

[Now Available - The Annual Evidence Update for Hearing Disorders](#)

15/03/10 Hearing disorder research continues to proliferate and this evidence update will present a concise summary of the latest emerging evidence on key topic areas

[ENT UK position paper on congenital ear abnormalities](#)

02/03/10 This brief position paper summarises the incidence, impact and the evidence base supporting the current management of congenital ear abnormalities

[ENT UK position paper on otoplasty](#)

02/03/10 This document summarises the current status of otoplasty (pinnaplasty) surgery in terms of its indications and evidence base.

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[View the latest update of recent additions to the collection](#)

02/03/10 Latest guidelines, systematic reviews and events.

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[More...](#)



Hot Off The Press

View [current issue contents](#) from key ENT and Audiology journals or link to a collection of [free journals](#)

Evidence Updates

View the latest annual updates of emerging evidence:

- [Tinnitus 2010](#)
- [Hearing 2009](#)
- [Rhinitis 2009](#)
- [More](#)

Identifying Uncertainties

The Collection team needs your help in identifying uncertainties about the effects of treatments.



[More](#)

Search Search

NEWS EVENTS QUALITY POLICY

- Conditions
- Therapeutic Interventions
- Specialties
 - Audiology**
 - Amplification
 - Assessment and Testing
 - Educational Audiology
 - Neonatal Screening
 - Speech and Language Therapy
 - Hearing Therapy
- Evidence Based Practice Resources
- Current Awareness
 - Service Delivery
 - Education and CPD
- Organisations
 - Image Resources

Specialties > Audiology

Total records: 448

- Guidance & Pathways (101)
- Evidence (124)**
- Reference (118)
- Education / CPD (44)
- Patient Information (61)

page: [1](#) | [2](#) | [3](#) | [4](#) | [5](#) | [6](#) | [7](#) | [8](#) | [9](#) | [10](#) > of 13

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Search results options

Search within results:

Sort by:

Show summaries:

Per page:

GO

Cochlear implantation under the first year of age - the outcomes. A critical systematic review and meta-analysis

Publisher: [International Journal of Pediatric Otorhinolaryngology, Elsevier](#) **Publication Type:** Systematic Review
Publication Date: 04 Nov 2009

[View detail](#) [Link to abstract here.](#)

Interventions to promote the wearing of hearing protection

Publisher: [John Wiley & Sons, Ltd](#) **Publication Type:** Systematic Review
Publication Date: 07 Oct 2009 **Source:** Cochrane

[View detail](#) [Click here to go to the complete record](#)

Interventions to prevent occupational noise induced hearing loss

Publisher: [John Wiley & Sons, Ltd](#) **Publication Type:** Systematic Review
Publication Date: 08 Jul 2009 **Source:** Cochrane

[View detail](#) [Click here to go to the complete record](#)

Effectiveness of multi-channel unilateral cochlear implants for profoundly deaf children: a systematic review

Publisher: [Clinical Otolaryngology](#) **Publication Type:** Systematic Review
Publication Date: 28 May 2009

[View detail](#) [Link to abstract here.](#)

Bilateral paediatric cochlear implants: A critical review

Publisher: [International Journal of Audiology, Taylor and Francis Ltd](#) **Publication Type:** Systematic Review
Publication Date: 20 Apr 2009

[View detail](#) [Link to abstract here.](#)



Why not use Google?

- Simplicity and Speed

Vs

- Quantity and Quality

Google scholar Search [Advanced Scholar Search](#)
[Scholar Preferences](#)

Scholar Articles and patents anytime include citations Results 1 - 10 of about 8,220. (0.15 sec)

[Speech perception, localization, and lateralization with bilateral cochlear implants-](#) ► [ioa.ac.cn](#) [PDF]

RJM van Hoesel, RS Tyler - The Journal of the Acoustical Society of America, 2003 - link.aip.org

Five **bilateral cochlear implant** users were tested for their localization abilities and speech understanding in noise, for both monaural and binaural listening conditions. They also participated in lateralization tasks to ...

[Cited by 141](#) - [Related articles](#) - [BL Direct](#) - [All 5 versions](#)

[Bilateral cochlear implants in adults and children-](#) ► [wisc.edu](#) [PDF]

RY Litovsky, A Parkinson, J Arcaroli, R Peters ... - Archives of Otolaryngology- Head and Neck Surgery, 2004 - Am Med Assoc

Results Preliminary findings suggest that, for adults, **bilateral** hearing leads to better performance on the localization task, and on the speech task when the noise is near the poorer of the 2 ears. In children, localization and ...

[Cited by 105](#) - [Related articles](#) - [BL Direct](#) - [All 7 versions](#)

[Three-month results with bilateral cochlear implants](#)

RS Tyler, BJ Gantz, JT Rubinstein, BS Wilson ... - Ear and hearing, 2002 - journals.lww.com

Tyler, Richard S.; Gantz, Bruce J.; Rubinstein, Jay T.; Wilson, Blake S.; Parkinson, Aaron J.; Wolaver, Abigail; Preece, John P.; Witt, Shelley; Lowder, Mary W. ... The University of Iowa, Iowa City, Iowa.

[Cited by 86](#) - [Related articles](#) - [BL Direct](#) - [All 4 versions](#)

[... on central auditory development in children with unilateral and bilateral cochlear implants-](#) ► [colorado.edu](#) [PDF]

A Sharma, MF Dorman, A Kral - Hearing Research, 2005 - Elsevier

We examined the longitudinal development of the cortical auditory evoked potential (CAEP) in 21 children who were fitted with unilateral **cochlear implants** and in two children who were fitted with **bilateral cochlear ...**

[Cited by 85](#) - [Related articles](#) - [All 6 versions](#)

[... discrimination, and speech intelligibility advantages in noise for a bilateral cochlear implant ...](#)

R van Hoesel, R Ramsden, M O'Driscoll - Ear and Hearing, 2002 - journals.lww.com

Skip Navigation Links Home > April 2002 - Volume 23 - Issue 2 > Sound-Direction Identification, Interaural Time Delay Discri... ... CRC for **Cochlear Implant** and Hearing Aid Innovation (RvH), East Melbourne 3002 (VIC) Australia; and ...

[Cited by 76](#) - [Related articles](#) - [BL Direct](#) - [All 3 versions](#)

[Otopathological findings in a patient with bilateral cochlear implants.](#)

LG Johnson, WF House, FH Linthicum Jr - The Annals of otology, rhinology & laryngology. ... - ncbi.nlm.nih.gov

The death in 1976 of a patient who had a multiple-electrode **cochlear implant** in one **cochlea** and a single-electrode **cochlear implant** in the other provided a

A stylized graphic of a human eye, rendered in shades of blue and black, located in the top left corner of the slide.

Google's further Weaknesses

- Duplication
- Lack of currency and coverage
- Secrecy of sources and inclusion criteria
- Lack of limiting options
- Lack of additional support

Search: PubMed

RSS Save search Advanced search Help

bilateral cochlear implants

Search

Clear

Display Settings: Summary, 20 per page, Sorted by Recently Added

Send to:

Results: 1 to 20 of 515

<< First < Prev Page 1 Next > Last >

[Dysplasia of the cerebellum in Waardenburg syndrome: Outcomes following cochlear implantation.](#)

1. Kaufmann L, Sauter TB, Lee DJ.

Int J Pediatr Otorhinolaryngol. 2009 Nov 17. [Epub ahead of print]

PMID: 19926145 [PubMed - as supplied by publisher]

[Related articles](#)

[\[Paediatric cochlear implantation in the critical period of the auditory pathway, our experience.\]](#)

2. Martínez-Beneyto P, Morant A, Pitarch MI, Latorre E, Platero A, Marco J.

Acta Otorrinolaringol Esp. 2009 Sep-Oct;60(5):311-7. Epub 2009 Sep 9. Spanish.

PMID: 19814982 [PubMed - in process]

[Related articles](#) [Free article](#)

[The effectiveness and cost-effectiveness of cochlear implants for severe to profound deafness in children and adults: a systematic review and economic model.](#)

3. Bond M, Mealing S, Anderson R, Elston J, Weiner G, Taylor RS, Hoyle M, Liu Z, Price A, Stein K.

Health Technol Assess. 2009 Sep;13(44):1-330.

PMID: 19799825 [PubMed - in process]

[Related articles](#) [Free article](#)

[The prelexical development in children implanted by 16 months compared with normal hearing children.](#)

Search

- Conditions
- Therapeutic Interventions
- Specialties
- Evidence Based Practice Resources
- Current Awareness Service Delivery Education and CPD
- Organisations Image Resources

You searched for: "bilateral cochlear implants"

Total records: 20

Guidance & Pathways (1) **Evidence (12)** **Reference (6)** **Education / CPD (0)** **Patient Information (1)**

page: [1](#) | [2](#) of [2](#)

< [Previous](#) | [Next](#) >

Bilateral paediatric cochlear implants: A critical review

Publisher: [International Journal of Audiology, Taylor and Francis Ltd](#)

Publication Type: Systematic Review

Publication Date: 20 Apr 2009

[View detail](#) [Link to abstract here.](#)

2009 Annual Evidence Update on Hearing Disorders: Cochlear Implants

Publisher: [NLH Specialist Library for ENT and Audiology](#)

Publication Type: Annual Evidence Update

Publication Date: 16 Mar 2009

[View detail](#) [Link to full update report here, MS Word File](#)

A systematic review to determine the effectiveness of using amplification in conjunction with cochlear implantation

Publisher: [Journal of the American Academy of Audiology, American Academy of Audiology](#)

Publication Type: Systematic Review

Publication Date: 31 Oct 2008

[View detail](#) [Link to abstract here.](#)

Long term effects of bilateral cochlear implants for profound deafness

Publication Type: Known Uncertainty

Publication Date: 26 Mar 2008

[View detail](#)

2008 Annual Evidence Update on Hearing Disorders: Cochlear Implants

Publisher: [NLH Specialist Library for ENT and Audiology](#)

Publication Type: Review

Publication Date: 17 Mar 2008

[View detail](#) [Link to the full evidence update here, Portable Document File / PDF](#)

Search results options

Search within results:

Sort by:

Show summaries:

Per page:

- ⊞ Conditions
- ⊞ Therapeutic Interventions
- ⊞ Specialties
- ⊞ Evidence Based Practice Resources
- ⊞ Current Awareness Service Delivery Education and CPD

Bilateral cochlear implantation: an evidence-based medicine evaluation

[Link to abstract here.](#)

Bottom-line conclusion: The available evidence indicates that bilateral cochlear implantation confers material benefits not achievable with unilateral implantation, specifically in terms of sound localization and understanding of speech in noise. Well-designed prospective studies of sufficient size are now needed to precisely quantify these benefits, to validate outcome measures, especially in children, and to define the criteria for intervention.

Method: A detailed search of the medical literature was performed using the Medline, Embase, and CINAHL databases starting from the date of their conception. The quality of evidence in each article was assessed according to the categories of evidence as defined by the Oxford Centre for Evidence-based Medicine, Levels of Evidence (May 2001).

Results: A total of 37 studies were included; 28 (76%) investigated adult participants only, 7 (19%) investigated child participants, and 2 (5%) contained both groups. Of the studies presented, 9 (24%) studies contained level 2b evidence, 2 (6%) level 3b, 16 (43%) level 4, and 10 (27%) level 5 evidence. No studies were identified as representing evidence level 1. Adult bilateral recipients demonstrated an increase in sentence recognition of 21% correct over their first implanted ear ($P < .001$) and mean bilateral localization errors of 24[degrees] against a monaural error of 67[degrees] ($P < .005$).

Specialist Library Quality Assessment:

The review stated a clear objective and defined the patient population and intervention clearly. Outcome measures of sound localisation and hearing in noise were clearly specified. Inclusion criteria for studies were broad due to the sparsity of evidence on the topic, but case reports and studies from non-peer reviewed journals were excluded. Non-English language studies were also excluded, thereby raising the possibility of language bias. Nevertheless, the literature search was comprehensive, covering four appropriate databases and embracing both published and unpublished material. Reference lists were also followed up. The quality of included studies was assessed using an established framework, but it is not clear whether this involved more than one assessor. No attempt was made to combine the results of studies due to the heterogeneity between included studies. The conclusions follow from the results and the recommendation for larger and well designed prospective studies was justified.

Citation: Murphy J and O'Donoghue G. Bilateral Cochlear Implantation: An Evidence-Based Medicine Evaluation. *Laryngoscope* 2007;117:1412-1418.

Access: Full-text online access to this article requires subscription to the journal. NHS staff please [contact your local NHS library for further assistance.](#)

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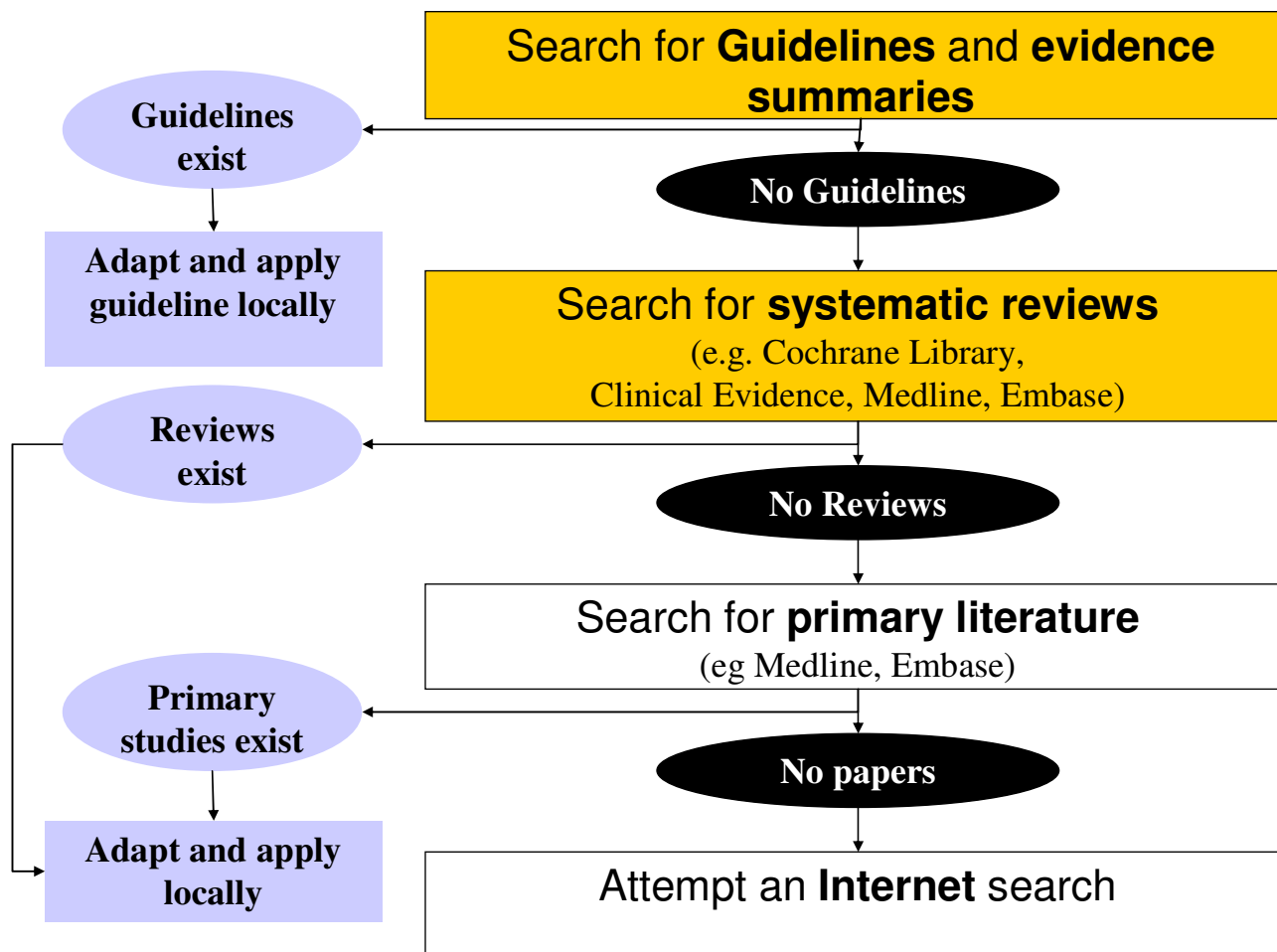
Colleague's email:

Your email:

Message:

GO

Searching Hierarchy





Additional Service: Rapid Response Searching

- Searching Service for specific queries
- Direct email submission or via website
- Rapid turnaround to meet deadlines
- Use local NHS library as starting point



Sample Searches

Bilateral cochlear implants

Paediatric vestibular assessment

Combined electroacoustic stimulation

Acquired dysarthria and dysphagia in patients with Parkinson's Disease

Allergic rhinitis evidence update

Auditory neuropathy in Cockayne's syndrome

Medical investigation of children with unilateral/bilateral hearing loss

Purpose

→ Inform NICE consultation

→ Support CPD course

→ Support systematic review

→ Inform Patient Case

→ Inform Clinical Knowledge Summary synthesis

→ Inform Patient Case

→ Inform BAAP evidence based guideline synthesis



Annual Evidence Update

- Comprehensive update on all emerging research
- Includes all stages of clinical process
- Expert commentaries on research themes
- Content retained on site indefinitely

Search Search

NEWS **EVENTS** **QUALITY POLICY**

- ▣ Conditions
- ▣ Therapeutic Interventions
- ▣ Specialties
- ▣ Evidence Based Practice Resources
- ▣ Current Awareness Service Delivery Education and CPD
- ▣ Organisations Image Resources

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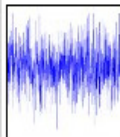
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[Hearing 2009](#)

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Identifying Uncertainties

The Collection team needs your help in identifying uncertainties about the effects of treatments.



[More](#)

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2010 Annual Evidence Update on Hearing Disorders: Contents

Published: 15 March 2010



Welcome to the 2010 Annual Evidence Update on Hearing Disorders The update aims to present expert commentary linked to a comprehensive collection of up-to-date research evidence published in the 12 months since the [2009 update](#). Please use the links below to access each section and take a few moments to [provide brief feedback](#).

Topic:

- [Newborn Hearing Screening and Early Audiological Assessment](#)
- [Hearing Aid Provision and Rehabilitation with expert commentary](#)
- [Cochlear Implants with expert commentary](#)
- [Tinnitus with expert commentary](#)
- [Otitis Media with Effusion with expert commentary](#)
- [Auditory Processing Disorder](#)
- [Therapeutic Uncertainties in Hearing Disorders](#)
- [Organisations](#)
- [Additional Resources](#)

Publication Date: 15 Mar 2010

Publication Type: [Annual Evidence Update](#)

Publisher: [NHS Evidence - ENT and Audiology](#)

Creator: NHS Evidence - ENT and Audiology

Next Review Date: 09 Feb 2011

Topics

- [Conditions](#) > [Ear & Auditory System Disorders](#) > [General Ear & Auditory](#) > [Central Auditory Disorders](#) > [Hearing Disorders/Deafness](#)

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Identifying Uncertainties

- Uncertainty – Treatment question/topic without existing evidence
- Database of uncertainties launched <http://www.library.nhs.uk/duets>
- Alert researchers to evidence gaps
- Prompt fundholders to prioritise funding

One creditworthy contribution to posterity



"As we know, there are known knowns. There are things we know we know."

*"We also know there are **known unknowns**. That is to say we know there are some things we do not know."*

"But there are also unknown unknowns, the ones we don't know we don't know."

Donald Rumsfeld

Search Search

- ⊕ Conditions
- ⊕ Therapeutic Interventions
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- ⊕ Evidence Based Practice Resources
- ⊕ Current Awareness
 - Service Delivery
 - Education and CPD
- ⊕ Organisations
 - Image Resources

Therapeutic Uncertainties

Identifying Uncertainties in ENT and Audiology

The Specialist Collection for ENT and Audiology is now identifying uncertainties about the effects of treatments for ENT and hearing disorders, to be added to the UK

Database of Uncertainties about the Effects of Treatments (DUETS).



UKDUETS has been established to publish uncertainties that cannot currently be answered reliably by referring to up-to-date systematic reviews of existing research evidence. Raising the profile of uncertainties in this way will help to stimulate and direct future research where it is most needed. DUETS draws on three main sources to identify uncertainties about the effects of treatments:

- Patients', carers' and clinicians' questions about the effects of treatments
- Research recommendations in reports of systematic reviews and clinical guidelines
- Ongoing research, both systematic reviews in preparation and new 'primary' studies

If you have identified any uncertainties relating to treatments in ENT and audiology, that you do not believe can be answered by existing systematic reviews, [please let us know here](#)

It would help us if you could summarise the patient group, intervention, comparison and outcome. Please also tell us if you are a patient, carer or clinician, so that the uncertainty can be tagged accordingly in DUETS.

For examples of uncertainties that have already been collected, visit DUETS [here](#)



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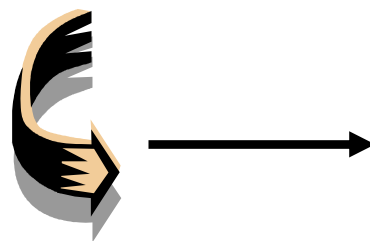




***Prioritising uncertainties
assembled in DUETs,
for additional research***



Identifying
treatment
uncertainties



....and building
the database

Developing Priority Setting Partnerships



Agreeing shared priorities in
treatment uncertainties



Making funders
aware of these shared priorities



Successful research bids for clinical trials based on priorities

Summary

- Why use the Specialist collection?
 - Quality
 - Currency
 - User friendliness
 - Responsiveness

www.library.nhs.uk/ent

