Audiology Papers of the Year 2015-16

In this short review we have asked **Melanie, Carolina, Josephine** and **Cherilee** to consider the best article they have read in the last 12 months and provide us with a short review. All contributors have managed to succinctly highlight the main points of the research and full referencing is provided to allow readers to follow up with the full articles.

Patient-centred care and communication in audiology consultations

Patient-centred care (PCC) is a much-used phrase and one that many clinicians aim to deliver. A PCC approach facilitates patient involvement in decision-making, develops a therapeutic relationship between patient and clinician, with a bidirectional exchange of information. This has been shown to improve patient satisfaction, treatment adherence and self-management. But how exactly does PCC take place in clinic, and how widespread is it? This novel Australian study used an Apple iPhone or iPod Touch to film initial audiology clinical consultations on diagnosis and management planning between audiologists, patients and their companions. The aim was to explore verbal communication, and describe the nature and dynamics by all speakers. Twenty-six audiologists volunteered, and a total of 62 consultations were filmed. The communication dynamics, such as verbal dominance, content balance and communication control were analysed. The results indicated that patient-centred communication was not widely observed. The main reasons for this were that psychosocial concerns were often not discussed, communication partners who attended were rarely involved, and the majority of the talk came from the audiologist. There were few observed signs of shared decision-making, with 83% of patients offered hearing aids, even though only 56% accepted them, and alternative options were rarely discussed. This study, together with a series of studies from this research group on audiologist-patient- communication partner exchanges, provide unique insights into what actually happens in the clinic setting. Fascinating reading, and a must for those audiologists who are interested in an evidence-based approach to PCC in adult rehabilitation.

The nature of communication throughout diagnosis and management planning in initial audiologic rehabilitation consultations.
Grenness C, Hickson L, Laplante-Lévesque A, et al.
JOURNAL OF THE AMERICAN ACADEMY OF AUDIOLOGY
2015;26(1):36-50.

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Cochlear implant candidacy

It is consensus between clinicians working in the cochlear implant (CI) field in the UK that a great proportion of patients who are currently refused a CI due to strict audiological criteria (thresholds ≥ 90 dB HL at 2 and 4kHz bilaterally) could actually be greatly helped through implantation. Research indicates that current candidacy criteria, based on National Institute of Health and Care guidelines published in 2009, no longer reflect the entire population of UK patients who could potentially gain benefit from CIs. In this paper, it was recommended that the audiometric cut-off level should be reduced to 80 dB HL at 2 and 4 kHz in the UK for all implant candidates, compared to the current 90 dB HL level. Seventy-one children were tested, 28 with bilateral CIs and 43 with bilateral hearing aids. Using an odds ratio of 3:1 the analysis suggested a candidacy cut-off of 80 dB HL (at 2 and 4 kHz) and with a 4:1 ratio a cut-off between 80 and 85 dB HL (at 2 and 4 kHz). The standard audiometric procedure for estimating thresholds has a 5dB step size so the practical implementation of these recommendations would be a cut-off at 80 dB HL at 2 and 4 kHz to ensure that no child is missed. Despite the evidence for audiometric changes in criteria, there are still concerns that even this change would not sufficiently cover all of the audiometric configurations that an appropriate candidate could have. As the pure tone audiometry has significant limitations in reflecting functional outcomes, other measures, such as the speech intelligibility index could be added to the CI test battery as a way to support candidacy decisions in those unusual cases where the audiometric criteria are not met but where the hearing configuration is equally disabling.

Bilateral cochlear implantation for hearing impaired children - criterion of candidacy derived from an observational study.
Lovett RES, Vickers AD, Summerfield AQ.
EAR AND HEARING
2015;36(1):14-23.

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Language outcomes in young children with hearing loss

This study reports comprehensive speech and language outcomes for 290 children with hearing loss (HL), from mild to severe (< 75 dB average HL in the better hearing ear) and fitted with hearing aids. One of the aims of this large cohort study was to assess the impact of the quality of the hearing aid fitting, as reflected by aided speech intelligibility index (aided SII) score, which is a better predictor of word repetition and receptive vocabulary than pure tone average thresholds (Stiles *et al.*, 2012). The aided SII score is gaining currency in paediatric audiology to reflect quality of hearing aid fitting. This study develops the concept of "residualised SII" (rSII) which controls for the child's unaided hearing levels. Children were grouped into four "quartiles" based on their rSII score. At age two years all four quartile groups had similar language abilities. However there were different rates of language growth with the children with better hearing aid fittings (rSII) showing consistently improving language against test norms. The children with the poorest hearing aid benefit showed no evidence of improvement in language level. By six years of age the four different trajectories show significantly different rates of language growth related to the quality of their hearing aid fittings. The crucial point is that hearing aid benefit across time was independent of the extent of unaided hearing loss. The children in the lowest quartile of benefit had average hearing loss of 53 dB compared to children in the highest quartile with average hearing loss of 50 dB. This underlines the importance for audiologists to optimise every hearing aid fitting for maximum audibility of speech and routinely report aided SII score for each ear separately. Also for aided SII to be included in criteria when considering potential benefit from cochlear implantation over acoustic hearing aids.

Language outcomes in young children with mild to severe hearing loss.
Tomblin B, Harrison M, Ambrose S, *et al.*
EAR AND HEARING 2015;36;76S-91S.

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Communication modes for children with hearing loss – systematic review shows lack of strong evidence

The choice between different communication options is important for parents of hearing impaired children, for clinicians, and policy makers. Generally decisions are made to follow either an oral approach (learning to speak and integrate into a hearing society) or a manual approach (using sign language and identification with the Deaf community). The value of a systematic review like this, is that it pulls together a body of research to help answer a specific question: Do children with hearing loss have better spoken language outcomes when exposed to early intervention that uses signs to support language compared with oral language intervention without sign language? Eleven studies were eligible for inclusion in this review and reported outcome data of children between 1995 and 2013. The majority of studies were based on US data (n = 8), with some additional studies from Denmark, Spain and the UK. Overall the results showed that most studies were rated as either moderate or weak in quality and currently there is not sufficient evidence to promote the inclusion of sign language to improve spoken language outcomes for hearing impaired children. It is also important to note that there is no evidence to suggest that the inclusion of sign does any harm. It is worrying in 2016 that there is still such a lack of scientific evidence for choice of communication modes and this paper highlights the need for carefully conducted clinical research that in future will contribute to systematic reviews that can inform practice.

Sign language and spoken language for children with hearing loss: a systematic review.
Fitzpatrick EM, Hamel C, Stevens A, *et al.*
PEDIATRICS 2016;137(1):e20151974.

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