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Validity of threshold estimation obtained with the VRA method "VideoVRA"

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BACKGROUND:

The Visual Reinforcement Audiometry (VRA) method "VideoVRA" developed at Bispebjerg Hospital has been used at our department since mid 2001. VideoVRA utilizes short video sequences as reinforcement and includes a fully automated algorithm for threshold estimation. The method was presented at NHS 2002 and 2006.

MATERIAL:

Threshold estimation has been performed on at least 1600 children. A total of 110 children in this group have been fitted with a hearing instrument. Of these 110 children, 52 have reached an age where it has been possible to check the threshold estimation obtained with the VideoVRA method, by proper Audiometry. Of these 52 children, at least 34 had results with both VideoVRA and proper Audiometry without any signs of OME (Otitis Media with Effusion) at the time of either measurement.

METHOD:

The VideoVRA system consists of a PC with 1 to 3 screens connected. The PC controls an audiometer. A footswitch connected to the PC is used for controlling the test. The video material used for reinforcement can be either mpeg-files or DVDs. The VRA test can be administered either manually or automatically. The build-in threshold estimation algorithm administers the automatic test. The results presented in this paper have been obtained using the automatic threshold estimation algorithm.

RESULTS/CONCLUSION:

Results will be presented at the conference.

The VideoVRA method is a valuable measurement method to evaluate the hearing status of small children from about 8-42 months of age.

VideoVRA is a good test as part of the "Cross-check principle" which says:

"Agreement among all components of the test battery, both electrophysiological and behavioural, is necessary for the formulation of a clinical impression regarding the infant's hearing status"

Using the flexibility of the system by changing the type of reinforcement increases the performance of the system.

