



Title Oto-acoustic Emission Audiometry (OAEA), August 1999

Agency MSAC, Medical Services Advisory Committee

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Reference MSAC application 1002. Assessment report, ISSN 1443-7120.

Aim

To assess the safety and effectiveness of the service and under what circumstances public funding should be supported for the service.

Conclusions and results

Safety: The only risks relate to false positive/false negative test results.

Effectiveness: OAEA has relatively high sensitivity and specificity, although studies show significant variation in results. As the tests require no behavioral response it is very useful for prelingual children. The negative predictive value of the test (where a negative test result for impairment proves to be accurate) is much higher than the positive predictive value. False positives increase with an infant's age (beyond 48 hours).

Cost-effectiveness: A detailed economic evaluation was not undertaken.

Recommendations

Public funding should be supported for detection of permanent congenital hearing impairment (PCHI) for children identified to be in a high risk group because of:

- Admission to a neonatal intensive care unit,
- A family history of hearing impairment,
- Perinatal infection,
- A birthweight below 1.5 kg,
- Craniofacial deformity,
- Birth asphyxia,
- Chromosomal abnormality, including Down syndrome, or
- Exchange transfusions.

Method

MSAC conducted a systematic review of the biomedical literature from 1998 to April 2000 by accessing biomedical electronic databases, the Internet, and international health technology agency websites.

Further research

If OAEA is funded, effectiveness monitoring will be needed, especially with respect to:

- The age of diagnosis,
- The commencement of habilitation,
- The effectiveness of early intervention,
- The prevalence and consequences of mild or unilateral PCHI, and
- The prevalence and consequences of temporary conductive hearing loss (currently the subject of a randomized controlled trial by the UK Medical Research Council).