Title:	**Oto-acoustic Emission Audiometry (OAEA) August 1999**
Agency:	Medicare Services Advisory Committee (MSAC) Commonwealth Department of Health and Ageing GPO Box 9848 Canberra ACT 2601 Australia **http://www.msac.gov.au**
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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 pre-lingual 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;
- having a birthweight less than 1.5kg;
- 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 randomised controlled trial by the UK Medical Research Council).

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