**Title: Oto-acoustic Emission Audiometry (OAEA) August 1999**

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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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