

Conclusions In light of the increasing burden on physicians to provide preventive care, this study calls into question the value of hearing screening using pure-tone audiometry during well-child visits given the poor test characteristics and lack of follow-up after referral.

Commentary Pure-tone audiometry screening is one of the many components of usual well-child care for which there is little underlying scientific evidence. This study finds that many children do not follow-up with an audiologist after an abnormal hearing screen and that the accuracy of audiometry compared with a formal audiologic evaluation is poor. The story may be even worse if the actual diagnoses, which were not presented in this report, were considered. For example, some of these children may have had serous otitis media, which would likely simply resolve over time. This study raises important healthcare delivery questions. For example, many states require repeated hearing screens as part of well-child care for Medicaid-enrolled children. This report suggests that such policies may be a significant waste of limited healthcare resources. It should be noted that in contrast to pure-tone audiometry, newborn hearing screening has led to dramatic improvements in the diagnosis of significant hearing loss. Unfortunately, there have also been barriers to the timely follow-up after an abnormal newborn hearing screen.

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Traumatic brain injury results in prolonged increase in risk of epilepsy in children

Christensen J, Pedersen MG, Pedersen CB, Sidenius P, Olsen J, Vestergaard M. Long-term risk of epilepsy after traumatic brain injury in children and young adults: a population-based cohort study. *Lancet* 2009;373:1105-10.

Question Among children with traumatic brain injury, how does the risk of epilepsy change over time?

Design Cohort study.

Setting Denmark.

Participants 1,605,216 people born between 1977 and 2002.

Outcomes Relative risks (RR) of epilepsy over time.

Main Results Risk of epilepsy was increased after a mild brain injury (RR 2.22, 95% CI 2.07–2.38), severe brain injury (7.40, 6.16–8.89), and skull fracture (2.17, 1.73–2.71). The risk was increased more than 10 years after mild brain injury (1.51, 1.24–1.85), severe brain injury (4.29, 2.04–9.00), and skull fracture (2.06, 1.37–3.11). RR increased with age at mild and severe injury and was especially high among people older than 15 years of age with mild (3.51, 2.90–4.26) and severe (12.24, 8.52–17.57) injury. The risk was slightly higher in women (2.49, 2.25–2.76) than in men (2.01, 1.83–2.22). Patients with a family history of epilepsy had a notably high risk of epilepsy after mild (5.75, 4.56–7.27) and severe brain injury (10.09, 4.20–24.26).

Conclusions The longlasting high risk of epilepsy after brain injury might provide a window for prevention of post-traumatic epilepsy.

Commentary Head trauma is an important cause of epilepsy and this study is an important contribution to our understanding of the problem. Using data from the Danish National Hospital Register, the investigators identified 78,572 persons who experienced at least one head injury and 17,470 persons with a diagnosis of epilepsy, of whom 1,017 persons had had a prior head injury, in a population of 1,605,216 persons born in Denmark. The relative risks of developing epilepsy in those with mild and severe head injury, with or without a family history of epilepsy, were compared with the risks of epilepsy in those without head injury at yearly time points after the injury and standardized for age, sex, and calendar year. Overall, the relative risks of epilepsy were found to be raised approximately two-fold (RR 2.2) after a mild and seven-fold after a severe head injury (RR 7.4). The risk of epilepsy increased with age and was highest for people older than 15 years at the time of injury for both mild (RR 3.5) and severe (12.2) head injuries. In children, the risk of posttraumatic epilepsy was highest in those aged 0-5 years after severe head injury (RR 7.2), and the risk following mild injury were similar for all aged 0-15. The rate of development of epilepsy was greatest in the few years immediately after head injury, with an over five-fold increase remaining for 2-3 years after a severe head injury, but the excess risk extended for 10 years after mild brain injury, longer than previously reported.¹ This study is of commendable size and completeness, with an excellent and sophisticated statistical design, and in our opinion should be considered the reference study in the field.

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Reference

1. Annegers JF, Hauser WA, Coan SP, Rocca WA. A population-based study of seizures after traumatic brain injuries. *N Engl J Med* 1998;338:20-4.

Evidence is not yet clear on impact of pacifiers on breastfeeding

O'Connor NR, Tanabe KO, Siadaty MS, Hauck FR. Pacifiers and breastfeeding: a systematic review. *Arch Pediatr Adolesc Med* 2009;163:378-82.

Question Among infants who are breastfeeding, does the use of a pacifier increase the risk of decreased breastfeeding duration or exclusivity?

Design Systematic review.

Data Sources MEDLINE, CINAHL, the Cochrane Library, EMBASE, POPLINE, and bibliographies of identified articles.