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## **Congenital *cytomegalovirus* infection is a significant cause of moderate to profound sensorineural hearing loss in Queensland children**

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**Aim:** To investigate the proportion of children with moderate to profound hearing loss who have congenital *cytomegalovirus* (cCMV) infection.

**Method:** Retrospective analysis of CMV dried blood spot (DBS) polymerase chain reaction (PCR) in children with moderate to profound hearing impairment referred to tertiary referral centers in Queensland. Participants were under 18 years old with no readily identified cause of hearing impairment, between 2008 and 2011. The primary outcome measure was DBS CMV PCR. Other outcome measures for cases referred to the Childhood Hearing Clinic (CHC) at the Mater Children's Hospital were level of hearing impairment and the neonatal hearing screen result.

**Results:** Of DBS CMV PCR testing for 106 children at the CHC for 2008 to 2011 inclusive, nine (8.5%) were positive (five with bilateral hearing impairment, four with unilateral hearing impairment). The prevalence of cCMV infection in children with moderate to profound hearing impairment was 8.4%, consistent with the statewide rate of 9.4% for 2008 to mid-2011.

**Conclusion:** cCMV is a significant cause of hearing impairment in Queensland children. Investigation for cCMV by retrospective DBS CMV PCR should be part of the routine investigation of all babies and young children with hearing impairment. However early diagnosis is preferable and could be achieved by routine early screening of all newborns with hearing impairment for CMV before 3 weeks of age. The healthy hearing screening program is a routine part of neonatal care. Enhancing the integration of screening for cCMV may reduce the current delays in diagnosis and should be evaluated.

### **Biography**

Chris Toumpas is a Pediatrician and Director of the Greenslopes Pediatrics Private Practice at Greenslopes Private Hospital. He also works as a visiting specialist at the Lady Cilento Children's Hospital, a tertiary pediatric hospital. He has established a Telehealth service seeing children in rural and regional parts of Australia and he provides an outreach service to Gladstone, Queensland. He also participates in medical education for doctors, nurses and students. He has completed research in medical education, newborn hearing and congenital cytomegalovirus infections. He is Senior Lecturer in Medicine at the University of Queensland and member of the Australian College of Rural & Remote Medicine.

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