

Is heart surgery related to longterm neuromuscular problems?

childhood
disability
LINK



Glossary

- **Congenital heart defect:** Defect in the structure of the heart from birth.
- **Hypotonia:** Abnormally low muscle tone.

Summary

This study looked at whether having open heart surgery as a child was linked to neurologic and motor problems later in life. To find this out, a group of survivors of infant open-heart surgery were evaluated by scientists. The scientists found that about 25% of the children had some type of neurological delay. For example, hypotonia and developmental delay. Microcephaly—which is the condition of having an extremely small head size—was found in approximately 15% of the children. Mild to moderate motor delays were also common in these children (found in about half the cases). It was also found that infants that required multi-staged open-heart surgery—also known as palliative heart surgery—were more likely to have motor delays. In summary, survivors of infant open-heart surgery are at risk for neurologic and motor impairments long-term. Risk factors identified may be helpful in targeting those that may benefit from early interventions to optimize motor function.

What families should know

Children with congenital heart defects who require open heart surgery are at high risk for developmental delays. This study provides further evidence that muscle tone abnormalities and gross and fine motor delays are common. Parents should be aware of potential areas of concern and seek early rehabilitation interventions if warranted.

What practitioners should know

Service providers that follow the health and development of young children with congenital heart defects should periodically screen developmental domains to include motor performance. Early identification and referral to rehabilitation specialists for targeted interventions may optimize motor coordination, balance and postural stability, which may be important for promoting independence in everyday self care, leisure and academic activities.

Reference

Majnemer, A., Limperopoulos, C., Shevell, M., Rosenblatt, B., Rohlicek, C., & Tchervenkov, C. (2006). Long-term neuromotor outcome at school entry of infants with congenital heart defects who required open heart surgery. *Journal of Pediatrics* 148, 72-77.

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