

# FACTSHEET

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## Anaesthesia and risk in infants: FAQs

Modern anaesthesia and surgery is very safe for children and infants. With new technology and new drugs, the risks of cardiac arrest, allergic reactions, kidney and liver failure are now extremely low.

Recently, the chance that anaesthesia (and other sedative drugs) may cause long term effects on brain development has been raised. In December 2016, the FDA (Food and Drug Administration, USA) made an announcement that the development of a child's brain may be affected by repeated or lengthy use of anaesthetics. This announcement has been carefully considered by your surgeon and anaesthetist before planning your child's surgery.

At the Sydney Children's Hospitals Network and Hunter New England Health, surgery is only done when necessary. All surgery is done for good reasons. Surgery and procedures cannot be completed without anaesthesia and pain relief. The benefit to your child (physical and/or psychological) can be clearly explained and is supported by clinical evidence.

Anaesthesia is focused on safety and reducing well-recognised complications (such as low blood pressure) of anaesthesia drugs.

Our understanding of the long-term effects of anaesthesia drugs on children is growing and recommendations are regularly reviewed. At this time, anaesthesia at SCHN and HNE is considered safe for children and infants.

### **My child is having a single brief anaesthetic. Are there any long-term effects on brain development?**

Several large studies have looked at anaesthesia in early life and its effect on brain development. These studies have measured learning disabilities, school results, intelligence quotients (IQ), autism and individual behaviours in children who have had anaesthesia in infancy. The majority of these studies have shown that single, short anaesthetics in infancy, do not lead to reduced scores in currently available developmental measures.

### **Are there any alternative forms of anaesthesia/ sedation that may be safer?**

There are no known alternatives to current general anaesthetic drugs. No particular anaesthetic drugs or techniques have been proven to be safer than those used in current practice.

### **My child may need several general anaesthetics when still very young (under 3 years). Could these have long term effects?**

Having multiple procedures that need anaesthesia early in life, is associated with a small increase in risk of a learning disability and/or a developmental and behavioural disorder, in later life.

It is not possible to work out whether the small increase in risk is related to the anaesthesia drugs or the effect of the underlying illness that made surgery necessary. It is possible that the illness, the surgery itself or repeated

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hospitalisations and absence from school may be more important factors than the anaesthesia drugs. It is also possible that children who need repeated surgery may already be at risk of poorer developmental outcomes.

Please note that the risk of a reduced academic or developmental score is generally low and the size of any reduction is small. These reductions, if any, may be related to the surgery, anaesthesia drugs or the underlying illness.

Your surgeon will discuss the factors that must be taken into account when deciding the timing of surgery. These decisions always involve a balance of risks.

### **My child is likely to need repeated general anaesthetics. What should I be doing?**

There is no good reason to treat your child any differently. All children develop best when nurtured in a safe, secure and loving environment. Give your child good nutrition, clean air, regular exercise and sleep to keep them safe and healthy. Brain development is likely to be improved when children are provided with an enriched learning environment in early life. If you have concerns about your child's development, ask to see your paediatrician.

#### **Remember:**

- Your surgeon is recommending surgery and anaesthesia for your child for a good reason.
- There are risks associated with the use of anaesthesia, however your surgeon will explain the benefits for your child, which are based on clinical evidence.
- Overall the risk of reduced academic and developmental outcomes from anaesthesia is small.

#### **Further information:**

- Talk to your anaesthetist or contact the Department of Anaesthesia if you are worried.