

# Researchers determine best anesthesia option for infants

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Infants undergoing some types of surgery could have better recovery if they receive regional anesthesia rather than general anesthesia, according to two studies published in the Online First edition of *Anesthesiology*, the official medical journal of the American Society of Anesthesiologists (ASA). Researchers explored the differences between the two types of anesthesia by measuring the presence of apnea, a breathing complication, following hernia surgery.

Experts have long examined the effects of anesthesia on [infants](#) and toddlers, and many believe infants who undergo [general anesthesia](#) in their first year of life may be at higher risk of developmental and learning issues. One option to avoid exposure to the adverse effects of anesthetics is to use [regional anesthesia](#). General anesthesia is provided by inhaling medication through an anesthesia mask or by IV and the patient loses consciousness. Regional anesthesia numbs a large part of the body, such as the area below the waist. Local anesthesia is placed around the spinal cord through an injection or a small tube called a catheter.

"Our research provides the strongest evidence to date on how babies should have anesthesia for hernia repair - the most common procedure among

infants," said Andrew Davidson, M.D., study author and associate professor, Royal Children's Hospital, Melbourne, Australia. "We found that spinal anesthesia is safer than general anesthesia."

Previous studies suggest that regional anesthesia might reduce the risk of apnea among infants. In the largest study to date, Dr. Davidson's study compared rates of apnea after general or regional anesthesia among 722 infants and found that while there was little evidence for a difference in late apnea, there was evidence that regional anesthesia reduced the risk of significant apnea in the first 30 minutes after surgery.

Of the 722 infants, Geoff Frawley, M.D., physician anesthesiologist and clinical associate professor, Royal Children's Hospital, Melbourne, Australia, examined 339 patients who had spinal anesthesia for factors affecting the failure or success of the anesthetic technique. A failure, by the authors' definition, was one in which another form of anesthesia had to be used to complete the surgery. Dr. Frawley found that 16.8 percent of cases required an additional form of anesthesia. The research also examined factors that may be associated with failure, including the anesthesia provider's experience in administering spinal anesthesia.

"Every year millions of children require surgery in their first year of life," said Dr. Frawley. "We aimed to establish which factors are associated with better outcomes when infant spinal anesthesia is used. We found that there is a steep learning curve among anesthesia providers for infant spinal [anesthesia](#), but learning the technique could have a far-reaching impact for infants undergoing surgery."

Provided by American Society of Anesthesiologists

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