Texas Children's Hospital®

Spinal Anesthesia for Infants

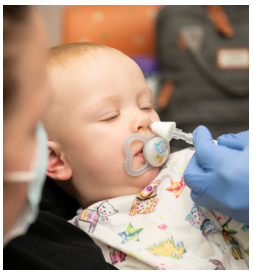
WHAT IS SPINAL ANESTHESIA?

During surgery, children receive anesthesia and are sedated for their safety and comfort. There are different types of anesthesia that can be used for surgery. There are gas forms of anesthesia that a child can breathe in and liquid forms that can be put into specific areas of the body.

In spinal anesthesia, a liquid numbing medicine is injected into the fluid inside the spine. The numbing medicine only affects feeling and movement below the belly button. This allows the surgeon to operate using the smallest amount of anesthesia medicine possible to make the patient comfortable.

WHAT HAPPENS ON THE DAY OF SURGERY?

On the morning of surgery, your child will receive medicated nose drops that will make them sleepy. A numbing cream will be put on their lower back at the site of the spinal injection.

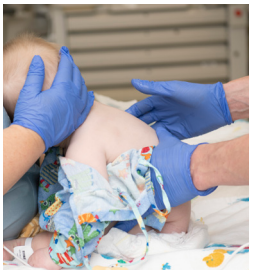


The patient receives medicated nose drops and feels sleepy.

In the operating room, your child will be placed in a sitting position. Monitors will be placed on your child to closely watch their vital signs. After cleaning your child's back with a solution to prevent infection, the numbing medication will be injected. Your child will immediately have no feeling below their belly button.

Your child will also have an intravenous (IV) line placed to deliver necessary fluids during surgery. Most children are already asleep by the time this takes place. If needed, a child can also be given an oral sugar solution on a pacifier or medications through the IV for additional comfort. During the entire surgery, an anesthesia care provider will monitor your child.

After the procedure, your child will be moved from the operating room to the recovery room or post-anesthesia care unit (PACU). Patients typically have low pain levels after spinal anesthesia. Additional pain medication is not usually needed. You will be taken to the PACU soon after surgery, as children wake quickly after spinal anesthesia. Your child will be able to drink fluids and be allowed to go home.



Patient in seated position ready for the spinal injection.

WHAT ARE THE BENEFITS OF SPINAL ANESTHESIA?

Spinal anesthesia is a safe alternative to general anesthesia for children under 2 years of age. It has been used more frequently in children since 2017 when the Food and Drug Administration (FDA) warned "that repeated or lengthy use of general anesthetics and sedation drugs may negatively affect brain development in children younger than 3 years."

Spinal anesthesia has been used safely since the 1800s. Its use allows us to avoid the risks of general anesthesia, which can include changes in heart rate and blood pressure or the need to support a child's breathing with a breathing tube. In addition, the time spent in the recovery room after spinal anesthesia is shorter compared to that of general anesthesia, which means a shorter visit to the hospital.

Patient sleeping during surgery after receiving the spinal injection.

WHAT ARE THE RISKS ASSOCIATED WITH SPINAL ANESTHESIA?

As with any procedure, there are risks. These rare risks* include bleeding, infection, tissue injury, nerve injury and reactions to medications. We take special care to reduce these risks as much as possible. If the Anesthesiologist feels the spinal anesthesia is not effective before surgery, general anesthesia can be given quickly to make sure your child remains comfortable for the procedure.

WHEN CAN A PATIENT HAVE SPINAL ANESTHESIA?

Spinal anesthesia is a good option for short surgeries or procedures because the injection provides numbness that usually lasts 1 to 2 hours. These procedures include, but are not limited to, circumcision, testicle surgery, hernia repairs and lower extremity surgery. Spinal anesthesia is not recommended for patients with elevated pressure in the brain, severe deformities, bleeding problems, or infection at the injection site.

*The risks are less than 0.05% based on the PRAN (Pediatric Regional Anesthesia Network) findings.