

Combined Nerve Blocks Versus Local Injection for Pain Management Following Pediatric Heart Surgery: A Randomized Study

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Why We Did This Study

Doctors use different ways to treat pain after heart surgery in children. This study compared two ways of giving numbing medicine. One way is to inject the medicine directly into the surgical cut. The other way is to use nerve blocks. Nerve blocks are guided by ultrasound, a tool that uses sound waves to see inside the body. Doctors wanted to know whether nerve blocks lowered pain after surgery. They also wanted to know whether children who received nerve blocks needed less opioid, a strong pain medicine, after surgery.

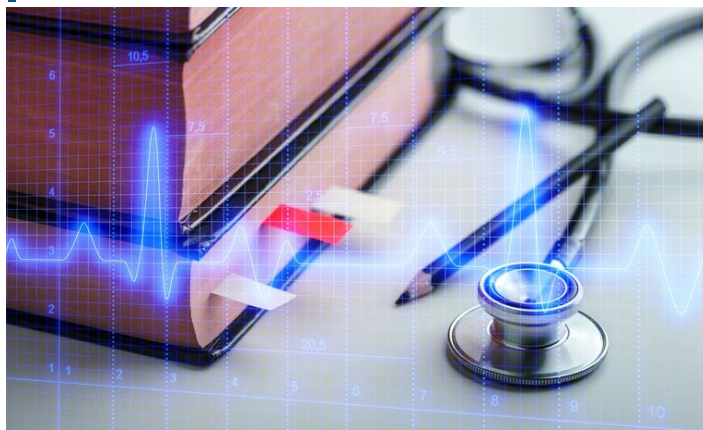
Who Participated in This Study?

Forty-two children took part in the study at Duke University Medical Center. Each child had surgery to repair a hole in the wall of the heart. These holes are called an ASD or a VSD. Twenty-four children received nerve blocks with ultrasound. Eighteen received numbing medicine injected directly into the surgical cut.



Most of the children were about 3 years old. The youngest was 4 months old, and the oldest was 10 years old.

What Were the Results?



Children who received nerve blocks had less pain and needed less opioid, a strong pain medicine, after surgery. During the first 12 hours, they received about 0.44 mg of opioid for each kilogram of body weight. Children who received numbing medicine in the surgical cut received about 0.83 mg

per kilogram. Children who received nerve blocks also needed less opioid and had lower pain scores during the first 48 hours after surgery. The two groups had similar hospital stays, started eating at about the same time, and received similar satisfaction ratings from their parents.



What Do These Results Mean?

Nerve blocks provided better pain relief than numbing medicine injected into the surgical cut. Children who received nerve blocks had less pain and needed less opioid, a strong pain medicine, after ASD or VSD surgery. This study included a small group of children treated at one hospital. More research is needed to determine whether nerve blocks provide the same benefits for other children.
