

# Reducing exposure to opioids after cesarean delivery

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An effort to improve the scheduled cesarean section delivery experience found that changes to preoperative and postoperative processes can lead to reductions in opioid use without increased pain and with faster recovery, according to research from Kaiser Permanente published in the journal *Obstetrics & Gynecology*.

The study compared 4,689 women who underwent scheduled C-section deliveries at Kaiser Permanente hospitals in northern California in the year before the Enhanced Recovery After Surgery program, known as ERAS, began with 4,624 women who delivered after it began.

ERAS includes innovations such as allowing a carbohydrate drink before [surgery](#) (rather than the traditional fast), [pain management](#) that reduces opioids in favor of local anesthetics and acetaminophen, getting patients up and walking soon after surgery, and educating patients about what to expect.

Taking fewer painkillers, along with moving around sooner after the surgery, can allow women to recover more quickly and care for their newborns, the researchers said.

"We found our new moms are more alert and engaged in the recovery process and in breastfeeding," said study co-author Kimberly Lee, MD, an obstetrician-gynecologist at Kaiser Permanente Santa Clara Medical Center. "Babies and mothers both can decrease exposure to opioids while hospitalized."

Researchers with Kaiser Permanente's Division of Research examined outcomes for the patient groups before and after ERAS and found decreases in [opioid](#) exposure and improvements in eating and walking. They found no significant change in length of hospital stay or [surgical site infections](#), though those metrics were not expected to decrease as they were already low.

The significant finding was that women could decrease opioids without experiencing greater pain, said lead author Monique Hedderson, Ph.D., a research scientist with the Division of Research.

"This study provides evidence we can successfully implement Enhanced Recovery After Surgery with patients undergoing cesarean deliveries, and that hasn't been shown before," Hedderson said. "It seems to result in a decrease in opioid exposure without an increase in pain."

As with any surgery, women undergoing a C-section who take opioids for pain may have trouble stopping their use. Recent research found that 2.2% of women who are given opioids after a cesarean delivery continued using the painkillers weeks or months later.

In this study, mean inpatient opioid exposure was nearly cut in half (from 10.7 average daily morphine equivalents to 5.4). The proportion of time patients reported acceptable pain scores increased from 82% to 86%. The time to first post-surgical ambulation went down by 2.7 hours, while the first post-surgical solid food intake decreased by 11 hours.

The typical pain control regimen for a scheduled C-section patient under ERAS is spinal anesthesia for the procedure, followed by scheduled non-steroidal pain medication and acetaminophen every 6 hours, with use of oxycodone (an opioid) as needed for breakthrough [pain](#).

The other elements of ERAS also contributed to a better experience, Dr. Lee said, including allowing liquid nutrition in the hours before the surgery and encouraging food afterwards. Patients were given information about what to expect during recovery in the hospital on a specially designed calendar in their cesarean section ERAS kit.

Elective C-sections are done for medical reasons,

such as a baby in breech position or if the mother has had a C-section in the past and does not want to deliver vaginally. The study did not consider emergency C-sections because those patients would not be able to participate in the full ERAS experience, though Kaiser Permanente hospitals in northern California are now using many of the ERAS elements with those patients as well.

Kaiser Permanente's 21 northern California hospitals have adopted ERAS practices for many surgeries and some outpatient procedures. All C-sections are now carried out under ERAS protocols following positive results from the pilot programs described in this research.

Provided by Kaiser Permanente

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