

# Expectation Linked to Postcesarean Pain Scores

BY BETSY BATES

Los Angeles Bureau

PALM DESERT, CALIF. — The degree to which women expected postoperative pain was highly correlated with actual postcesarean section pain scores, James C. Eisenach, M.D., reported at the annual meeting of the Society for Obstetric Anesthesia and Perinatology.

He and his associates prospectively studied 31 healthy women scheduled for elective C-section. They conducted psychological and pain studies from 1 to 10 days before surgery and then monitored pain scores and analgesia use after surgery.

Preoperative testing included ratings of unpleasantness and pain during a 5-second

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application of heat stimuli to the forearm and lower back; administration of a state anxiety and trait anxiety questionnaire; and questions about how much pain the women expected to experience postoperatively and whether they

expected to require pain medication.

State anxiety reflects one's self-assessment tension associated with a specific experience, while trait anxiety reflects one's assessment of how much he or she is generally prone to anxiety.

"What we see is what everyone sees. That is, there is a tremendous variability in pain scores at rest and with movement 24 hours after C-section," said Dr. Eisenach, professor of anesthesiology and vice chair of research at Wake Forest University, Winston-Salem, N.C.

Pain scores indeed varied widely even though all patients received spinal anesthesia, nurse-administered intravenous opioids in the recovery room, and patient-controlled intravenous analgesia once they left the recovery room.

The subjects rated overall postoperative pain from 0.5 to 9.5 on a 10-point visual analog scale. Average pain at rest scores ranged from 0 to 7 and pain with movement from 0.2 to 9.2; morphine use in the first 10 postoperative hours ranged from 0 to 81 mg. Positive associations varied depending on the type of pain assessed.

Regression analysis identified three variables associated with postoperative pain at rest: trait anxiety, expected postoperative pain, and the sensory level at the time the incision was made.

Movement pain was associated with results of suprathreshold pain testing on the forearm (but not the lower back), state anxiety, expected pain, and the duration of surgery.

Analgesic drug use was associated with pain threshold in the forearm test, trait anxiety, expected pain, and the duration of surgery. Only expected pain was associated with all postoperative pain measures.

Dr. Eisenach theorized that duration of

surgery was related to the degree of adhesions that were present from previous C-sections, since all of the procedures were performed by experienced obstetricians from a private obstetric practice in Winston-Salem.

A number of intriguing findings emerged, beyond associations with specific measures of pain.

As part of the work-up before the surgery, women were asked to listen to tones of different decibels, and these test

results were compared with their scores on a visual analog pain scale during the application of a heated stimulus on the forearm and lower back. There was a high degree of correlation, Dr. Eisenach said.

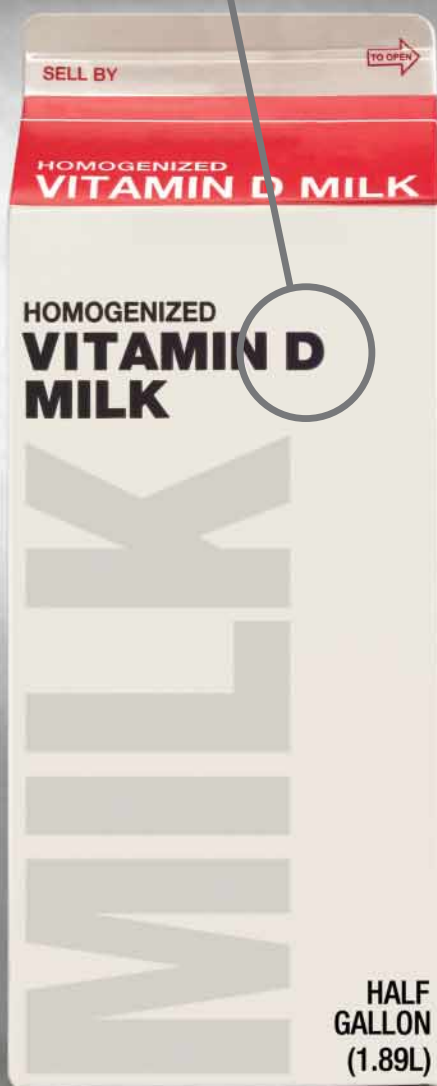
He also found that women at term do not have the same type of responses to pain stimuli as men or nonpregnant women. Term women have an initially intense response to increasing temperatures, but then a marked decline in the degree of response even as temperatures rise—a

phenomenon known as offset analgesia.

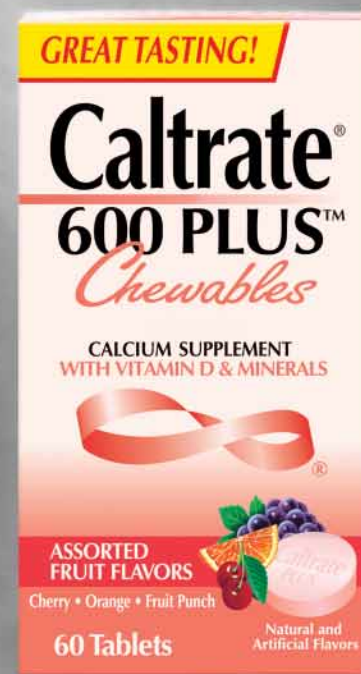
In the study, pain thresholds of women at term did not vary widely, but the majority could not tolerate this at all, he said. "There is clearly something very different about the ability to recruit endogenous analgesic systems" at term, he said.

The investigators were unable to find correlations between subjects' pain thresholds at different anatomic sites (the lower back versus the forearm) and postoperative pain. ■

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References: 1. Office of the Surgeon General. *Bone Health and Osteoporosis: A Surgeon General's Report: What Is Bone Disease?* Available at: [www.surgeongeneral.gov/library/bonehealth/factsheet1.html](http://www.surgeongeneral.gov/library/bonehealth/factsheet1.html). Accessed November 19, 2004. Page 3. 2. *Bone Health and Osteoporosis: A Report of the Surgeon General*. Washington, DC: Office of the Surgeon General, US Dept of Health and Human Services; 2004:12.

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