

Women's Pain Update Study Summary

The American Society of Anesthesiologists® (ASA®) conducted a literature review and issued the Women's Pain Update to help raise awareness of the many options available to women for controlling both acute and chronic pain. The studies selected for the update come from peer-reviewed scientific research published in 2014. As a whole, the studies shed light on how women cope with pain, whether from surgery, labor, back pain or painful periods, and insights into how physicians are improving pain treatment strategies for their patients. Following is a summary of the highlighted research:

Labor and Delivery Pain Research

OPIOID OVERUSE AND ABUSE DURING PREGNANCY INCREASING

According to a review of more than 57 million American women admitted for delivery, the number of pregnant women who abuse or are dependent on opioids (narcotics) jumped 127 percent in 14 years. Opioid use during pregnancy can lead to an increased risk of maternal death and stillbirth among other serious problems.

SOURCE

[Opioid abuse and dependence during pregnancy: Temporal trends and obstetrical outcomes.](#)

Anesthesiology, Dec. 2014

AT-A-GLANCE

- Study of 57 million pregnant women
- The number of pregnant women who misuse or abuse opioids jumped 127 percent in 14 years
 - Increase was 162 percent in women 20-34
- Women who overused or abused opioids during pregnancy were:
 - Five times more likely to die in the hospital
 - Twice as likely to have babies who were stillborn, born early or have poor growth before birth

LISTENING TO MUSIC PROVIDES PAIN RELIEF DURING LABOR

A study randomly assigned 156 women to listen to music during labor, or not. Those who listened to music reported less pain and anxiety during labor and required less pain relief after the birth.

SOURCE

[Effect of music on labor pain relief, anxiety level and postpartum analgesic requirement: A randomized controlled clinical trial.](#) *Gynecologic and Obstetric Investigation*, Sept. 2014.

AT-A-GLANCE

- 156 women pregnant women were randomly assigned: 77 listened to music during labor, 79 did not
- Women who listened to music had lower level of pain and anxiety versus those in control group at all stages of labor
- Significantly better fetal heart rates (and blood flow of mother) in those who listened to music
- Women who listened to music during labor required less pain medication after the child was born

Surgery Pain Research:

NERVE BLOCK AND IV ANESTHESIA BETTER THAN GENERAL ANESTHESIA FOR RECOVERY FROM BREAST SURGERY

Women having surgery for breast cancer fare better after surgery if they have regional anesthesia combined with a nerve block, rather than general anesthesia, according to a randomized study of 64 women. Women who received a nerve block and IV anesthesia had less pain after surgery, less nausea and vomiting, consumed less morphine and left the hospital sooner.

SOURCE

[Ultrasound-guided multilevel paravertebral blocks and total intravenous anesthesia improve the quality of recovery after ambulatory breast tumor resection.](#) *Anesthesiology*, March 2014.

AT-A-GLANCE

- 64 women in the study – 33 received propofol-based total intravenous anesthesia (PVB), a regional anesthesia; 31 had standard general anesthesia (GA)
- Women who had PVB had higher quality of recovery, via standard questionnaire (which measures emotional status, physical comfort, physical independence, postoperative pain and perception of general health status) at hospital discharge and two days after surgery (by day seven the results were even). On the quality of recovery scale, lower scores are worse and higher scores are better:
 - Scores at hospital discharge: 146 for PVB vs. 131 for GA
 - Scores two days post-surgery: 145 for PVB vs. 135 for GA
- Women who had propofol-based intravenous anesthesia:
 - Were discharged 21 percent sooner
 - Had a lower incidence of vomiting
 - Were less likely to need intraoperative supplemental opioids
 - Were less likely to require supplemental opioids in recovery

WOMEN REPORT MORE PAIN AFTER SURGERY

In a study of more than 22,000 people having 30 different types of surgeries – from appendectomy to knee replacement – women consistently reported slightly more intense pain after surgery than did men.

SOURCE

[Procedure-specific risk factor analysis for the development of severe postoperative pain.](#)

Anesthesiology, May 2014.

AT-A-GLANCE

- Study of 22,963 patients in 105 German hospitals
- Women reported more pain in 21 of 23 surgeries
- Women reported slightly higher pain intensities (.29 points higher)
- The authors hypothesized that was because:
 - Insufficient pain treatment in women compared to men
 - Women use patient-controlled opioid treatment less frequently because of increased side effects compared to men
 - Social and cultural differences

Other Pain Related Research:

MASSAGING ROSE OIL INTO THE ABDOMEN DECREASED PAINFUL PERIODS

In a study of 75 women with painful periods (the most common gynecological complaint), 25 massaged rose oil onto their abdomens, 25 used unscented almond oil, and 25 did nothing for the pain. In the second menstrual cycle, the pain was significantly lower in the rose oil group.

SOURCE

[The effect of self-aromatherapy massage of the abdomen on the primary dysmenorrhoea.](#)

Journal of Obstetrics & Gynaecology, Sept. 25, 2014.

AT-A-GLANCE

- 75 women with painful periods were divided into three groups. All massaged their abdomens and:
 - 25 applied rose oil during the massage
 - 25 applied unscented almond oil during the massage
 - 25 used no oil during the massage
- Pain was self-reported before and after massage:
 - Pain was reduced in the first cycle, but there was no significant difference between the groups
 - In the second cycle, pain was significantly lower in the group that used rose oil compared to the other two (although pain was less in the almond oil group compared to the no-oil group)

YOGA HELPS RELIEVE CHRONIC BACK PAIN

In a study of 43 premenopausal women with chronic low back pain, 23 did yoga three times a week for 12 weeks, and 20 women did not. After 12 weeks, the women who did yoga had significantly less back pain, while the women who didn't do yoga had increased pain.

SOURCE

[Effect of yoga on pain, brain-derived neurotrophic factor, and serotonin in premenopausal women with chronic low back pain.](#) *Evidence-Based Complementary and Alternative Medicine*, July 2014.

AT-A-GLANCE

- Study of 43 women with chronic low back pain, 23 did yoga three times a week for 12 weeks, 20 did not do yoga.
- After 12 weeks, yoga group experienced significant improvements versus non-yoga group:

PAIN

- In yoga group: Pain was nearly three times less than what it was when they started (using a standard visual questionnaire for measuring pain): They scored 48.7 (0 being no pain, 110 being worst pain imaginable according to 11 questions) before the study and 16.8 after
- In control group: Pain actually increased in women who did not do yoga, using same questionnaire: pain increased from 48.7 before to 56.5 after

MEASUREMENT OF BRAIN-DERIVED NEUROTROPHIC FACTOR (BDNF) AND SEROTONIN IN BLOOD

- Yoga group: Nearly 25 percent increase in BDNF
- Non-yoga group: 21 percent decrease in BDNF
- Serotonin stayed about the same in yoga group (slight drop but not statistically significant, but dropped in non-yoga group)

BACK FLEXIBILITY (MEASURING HOW FAR THE WOMEN COULD BEND OVER/TOUCH THEIR TOES)

- Nearly doubled in yoga group (4.7 centimeters to 10.9)
- Slight increase in non-yoga group that was not statistically significant (from 7.7 to 8.8 centimeters)

WOMEN AND MEN RESPOND DIFFERENTLY TO FIBROMYALGIA PAIN

In a study of 747 women and 48 men with fibromyalgia, there were no gender differences re: the amount of pain and function. However, men were more likely than women to view pain as reflecting harm and use activity avoidance as a pain-coping strategy.

SOURCE

[Sex differences in psychological response to pain in patients with fibromyalgia syndrome.](#) *Clinical Journal of Pain*, Oct. 2014.

AT-A-GLANCE

- 747 women and 48 men with fibromyalgia, attended treatment program, authors looked at sex differences in response to pain
- There were no differences related to sex in the measurement of pain and functioning
- Men were more likely to view pain as reflecting harm
- Men were more likely to avoid activity, thinking it would help them avoid pain