

## Acupuncture, real or sham, eases hot flashes due to breast cancer chemo

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Both real and sham weekly acupuncture treatments eased hot flashes and other side effects of anticancer drug treatment in a small, preliminary study of breast cancer patients, Baltimore researchers have found.

The results, they say, add to previous reports that even the sensation of skin pricks used to simulate genuine acupuncture needle sticks might be enough to generate natural chemicals that improve symptoms.

Investigators at the University of Maryland Greenebaum Cancer Center and the Johns Hopkins Kimmel Cancer Center set out to see if acupuncture could reduce the severity of [side effects](#) linked to aromatase inhibitors (AI), drugs used to treat [breast cancer](#) or prevent it from recurring after surgery. Because AIs block estrogen synthesis in postmenopausal patients, they can cause moderate to severe hot flashes, similar to those experienced during menopause, and musculoskeletal problems, such as joint and muscle pain.

For the study, investigators enrolled 47 postmenopausal women with stage 0 through III hormone receptor-positive breast cancer who had been receiving AI therapy for at least a month and who reported some AI-associated musculoskeletal symptoms. Patients were randomly assigned to receive eight weekly real or sham acupuncture treatments; 23 patients received real acupuncture and 24 received sham acupuncture.

In addition, the research team collected weekly hot-flash diaries during weeks 0 through 8 and in week 12. Other questionnaires addressing

menopausal symptoms, mood, sleep quality, depression, anxiety and quality of life were collected at the study's start and four, eight and 12 weeks later.

Among those receiving real acupuncture, researchers said there were statistically significant improvements in depression, hot-flash severity and frequency, hot flash-related daily interference and other menopausal symptoms. Among those receiving sham acupuncture, researchers noted statistically significant improvements in quality of life, hot flash-related daily interference, and menopausal symptoms. Women in both groups saw an average reduction in hot-flash severity of 31 percent to 54 percent, respectively, from the real and sham acupuncture treatments.

To compare the effects of real acupuncture sessions with those of sham acupuncture, for the latter, the team used non-penetrating, retractable needles placed in 14 locations on the skin between points used for real acupuncture. The non-penetrating needles produce a pricking sensation on the skin so that research subjects could not tell if they are getting the real treatment or not.

Study results, published online Dec. 23 in the journal *Cancer*, showed few differences overall in benefits between those receiving real and sham acupuncture, and no patients experienced significant side effects from acupuncture.

Although the researchers were not specifically studying racial differences in patients' response, they found that African-American women more often had less frequent or severe hot flashes after real acupuncture, but not after the sham treatments. However, only nine African-Americans participated in the study, not enough, the researchers said, to draw firm conclusions.

The fact that some women had benefits from sham acupuncture raised

the question of whether the pricking sensation of sham acupuncture triggers physiological effects, says lead author Ting Bao, M.D., D.A.B.M.A., M.S., assistant professor of medicine at the University of Maryland Greenebaum Cancer Center.

An estimated 60 percent of the acupuncture points used in the study, primarily to treat musculoskeletal symptoms, overlap with those used in treating hot flashes.

Another study published by the researchers earlier this year in the journal *Breast Cancer Research and Treatment* showed that both real and sham acupuncture treatments helped improve AI-associated musculoskeletal symptoms, including a statistically significant reduction in the inflammatory protein IL-17.

"The current interventions for musculoskeletal side effects are limited to oral analgesics and exercise," Bao says. "But the efficacy of these approaches is limited, and long-term use of oral analgesics can be challenging. If patients are open to acupuncture, this is a reasonable alternative for them."

Studies indicate that up to 60 percent of women with early stage breast cancer who receive AIs experience [hot flashes](#), says Vered Stearns, M.D., senior study author and co-director of the breast cancer program at the Johns Hopkins Kimmel Cancer Center. Conventional hot-flash treatments include drugs, though their use is limited because of side effects, underscoring a demand for more non-pharmacological interventions, she says. "These women have had a lot of different treatments, and some really try to avoid additional medications," she added.

The authors caution that their study was small and needs verification. They are planning a randomized controlled trial to look further into the

racial differences seen in response to real versus [sham acupuncture](#).

**More information:** "Patient reported outcomes in women with breast cancer enrolled in a dual-center double blind randomized controlled trial assessing the effect of acupuncture in reducing aromatase inhibitor-induced musculoskeletal symptoms." Ting Bao, Ling Cai, Claire Snyder, Kelly Betts, Karineh Tarpinian, Jeff Gould, Stacie Jeter, Michelle Medeiros, Saranya Chumsri, Aditya Bardia, Ming Tan, Harvinder Singh, Katherin H. R. Tkaczuk, and Vered Stearns. *Cancer*; Published Online: December 23, 2013. [DOI: 10.1002/cncr.28352](https://doi.org/10.1002/cncr.28352)

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