

# A Single Shot Eases Menopause Hot Flashes

For women going through **menopause**, hot flashes can be among the worst symptoms. They can occur at any moment, creating a feeling of overwhelming heat and causing a racing heart and uncontrollable sweating.

Now, scientists have found a way to block hot flashes using a single injection of a nerve blocking agent in the first randomized, controlled study to examine the injection's effects. The study was published online last week in *Menopause*, the journal of the *North American Menopause Society*.

The injection targets a nerve group in the neck called the stellate ganglion. "The way that menopause scientists and clinicians became aware that stellate ganglion block might decrease hot flashes came from clinical observations of anesthesiologists who used this anesthesia procedure for pain control," explained Dr. Pauline Maki, a professor of psychiatry and psychology at the University of Illinois at Chicago and senior study author, in an interview with Healthline.

Women who received the treatment for pain control reported that their hot flashes had suddenly become less severe, drawing researchers' attention to the nerve cluster.

In Maki's study, women undergoing natural menopause received an injection of anesthetic to the stellate ganglion. The women then kept a journal of their symptoms in addition to wearing a skin monitor to measure the severity of their hot flashes. Half the women received a placebo injection of salt water and also monitored their symptoms.

At first, both groups showed an improvement in their hot flashes. Women who received the nerve block saw their hot flashes fall in intensity by more than 50 percent. Those who got the placebo shot still saw an improvement of more than 30 percent, a testament to the power of the mind.

But by three months after the injection, the placebo effect had worn off, while the effects of the injection were still going strong. "It did not look like it was diminishing, which suggests some remodeling of the nervous system," said Maki. "We

don't quite know the mechanism of action, but whatever it is, it's continuous over time."

And the stronger the hot flashes, the more effective the stellate ganglion block was. Women with mild to moderate hot flashes didn't see much relief, but those with moderate to severe hot flashes did. Hot flash symptoms include clammy skin, dry mouth, muscle tension, anxiety, agitation, faintness, headaches, and a sensation of warmth.

## Find Out Why Menopause Causes Hot Flashes

This study isn't the first to examine this phenomenon. Previous uncontrolled studies of breast cancer survivors with menopause found that a stellate ganglion block reduced hot flashes by 50 to 90 percent for up to a year. This study, however, was the first to apply scientific controls rigorous enough to someday bring the treatment to market.

So why get a stellate ganglion block for your hot flashes? It's not as effective as taking hormone replacement therapy.

"It's not a black and white answer," said Maki. "Hormone therapy-meaning estrogen - is still considered the gold standard for the treatment of hot flashes. Nothing works better than estrogen. It reduces hot flashes by 90 to 95 percent." During menopause, the body stops producing estrogen and other reproductive hormones, so taking a supplemental dose of hormones to make the transition smoother will offer relief for many women.

But taking hormones isn't a perfect solution. "Many women don't want to take hormones because of fears of health concerns," Maki explained. "Many women also don't want to take estrogen because they have a family history of breast cancer or other risk factors that are associated with adverse effects for hormone therapy. That's where the stellate ganglion blockade comes in."

The Food and Drug Administration (FDA) has approved other medications for



hot flashes, including gabapentin and SSRI antidepressants, but they require taking a pill daily and also carry several side effects. The stellate ganglion block only has to be administered once, and it has no known long-term side effects.

Although Maki's study examined women who undergo menopause naturally as they age, her real goal is to study women with breast cancer. Their ovaries can be destroyed by chemotherapy or radiation, or might be removed surgically. If their ovaries survive the treatment, breast cancer patients often go onto a medication that shuts down their body's estrogen production, since estrogen can cause their cancer to return.

Either way, these treatments cause their bodies to immediately and permanently enter full menopause, a much harsher transition than the gradual process that middle aged women experience over time.

"It's unfortunate, because there's some evidence that suggests that going into menopause early in life is associated with a number of adverse health outcomes," said Maki. "Plus, women with breast cancer unfortunately have particularly severe hot flashes and particularly frequent hot flashes, and they can't take the gold standard treatment for hot flashes, which is estrogen."

Although the stellate ganglion block won't treat the other symptoms of menopause, it could offer real relief for breast cancer survivors with hot flashes.

"They don't have to take a medication every day; they can come in for one procedure," Maki said. "That's the next step in our research."

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