

ARNOLD'S EARTHQUAKE: HOW BIG THE TREMORS?

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Cancer Fighter

A study shows letrozole helps breast-cancer survivors remain disease-free

By ALICE PARK

FOR POSTMENOPAUSAL WOMEN who have been treated for breast cancer, five is a magic number. The standard therapy for tackling the majority of their tumors is surgery to remove the lumps, then the drug tamoxifen for five years to prevent cancer from recurring. After five years, the body becomes resistant to tamoxifen's effects. At that point, women stop taking it, cross their fingers and hope for the best. "There wasn't really anything available for them," explains

Dr. Andrew von Eschenbach, director of the National Cancer Institute. "Yet we knew that many women risk recurrences even beyond five years."

Last week researchers involved in an international study finally gave these women a way to keep fighting their cancer beyond five years. In a study that the *New England Journal of Medicine* published online, the doctors report that a currently available drug, letrozole (marketed by Novartis as Femara), could pick

up where tamoxifen leaves off. In a trial involving more than 5,100 women, those taking letrozole after five years on tamoxifen experienced 43% fewer cancer recurrences than those assigned to the placebo group. The benefit was so great that doctors decided to cut the trial short to give the placebo group the option of switching to letrozole.

Each year about 212,000 women in the U.S. are found to have breast cancer; half of them are postmenopausal and have tumors studded with receptors for estrogen or progesterone. These growths are perfect targets for tamoxifen and letrozole, which block estrogen's tumor-enhancing effects, albeit through two different mechanisms. "Estrogen is like the fuel that runs a car engine," says Dr. James Ingle, who headed the U.S.

portion of the trial at the Mayo Clinic. "If you remove the fuel, the engine quits running."

The shortened trial did leave some questions unanswered. No one can say how long women should remain on letrozole. And while bone thinning is a known side effect, other long-term effects are unclear. Still, for those who have graduated from tamoxifen, there is finally something better than just hoping for good luck. ■



BRAIN WAVES



Sleep to Remember

If you can't remember your PIN or the names of people you meet, try sleeping on it. Researchers at the University of Chicago found that some shut-eye improved recall of memories made during the day. A group of college students was asked to memorize a series of word sounds; some students were tested for their recall after being awake for 12 hours, others after 12 hours of slumber. The latter group was able to recall more words, leading the researchers to speculate that memories are constantly being stored and consolidated. Sleep may be a way memories are rescued.

THIS IS YOUR BRAIN ON REJECTION

Ever wonder why you feel so physically rotten when your date doesn't call the next day? It turns out that it's your brain rather than your heart that takes snubbing the hardest. Researchers at UCLA and Macquarie University in Australia have shown that physical pain and the more psychological pain of rejection are processed by the same areas of the brain. Using functional magnetic resonance imaging, which records an active brain at work, they tracked college students as they played a three-person computer game designed to exclude one player. When a student was snubbed, two areas of the brain critical to generating feelings of physical pain and to developing emotions became more active (one area shown at right). Feeling the pain of social snubbing may have evolved as a survival mechanism to keep people connected to the safety of a larger group.



EARLIER WARNING

Down syndrome occurs in about 1 in every 800 children born in the U.S. Until now, the genetic disorder could not be detected prenatally until the second trimester. That may change. A new test, still in the early stages of study, can detect it in the first trimester, using the mother's blood and an ultrasound scan of the fetus.