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## HEALTH

SEARCH



### Power of the Placebo

Study Highlights Effect on Brain Activity

By Melinda T. Willis

**B O S T O N, Jan. 2** — A new study finds that the placebo effect actually alters brain activity.

A new study suggests that patients taking placebos for major depression in research studies may be altering their brain function. (PhotoDisc)

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The study published in the *American Journal of Psychiatry* is the first of its kind to suggest that patients with major depression who receive placebos experience changes in brain function similar to changes caused by medication.

The double blind study conducted by UCLA researchers used quantitative electroencephalography or QEEG imaging to look at brain activity in 51 patients who were assigned to receive either placebos or one of two antidepressant medications.

After nine weeks, patients were classified as being medication responders, placebo responders, or non-responders to either medication or placebos.

"The placebo responders and the medication responders had changes in the same brain region," says Dr. Andrew Leuchter, lead author of the study and director of adult psychiatry at the UCLA Neuropsychiatric Institute and Hospital.

Placebo responders showed more activity in the prefrontal cortex while medication responders showed less activity. Additionally, the decrease in depression with the placebo was the same as the the improvement with medication.

#### Placebo Perceptions

A placebo is a non-medication, or inactive treatment that is used to satisfy a patient's psychological need for medicine. In other words, just the act of taking a pill may be enough to make some people feel better: the so-called placebo effect.

Some experts even believe that the placebo effect accounts for as much as 100 percent of the efficacy of medication, according to Dr. J. Alexander Bodkin, director of the clinical psychopharmacology research program at McLean Hospital in Belmont, Mass.

"What we didn't expect is that people who get better on placebo would actually show changes in brain activity, as well," added Leuchter. "Placebo is commonly thought of as an inert treatment. It's supposed to be nothing."

But, the new research suggests that placebos are not "nothing" in the context of a clinical research study, where placebos are commonly compared to medications to test the effect of these drugs over and above the patient's belief that they will work.

In the current study, for example, all subjects participated in weekly sessions with a research nurse. Experts feel that this type of attention is an active form of treatment that may well account for the findings.

"The [subjects] came into treatment and went through all the different components of the research milieu — the interpersonal contacts, the tasks, the pill, everything — they got better and that also changed their brain function," says Leuchter. "All of those factors go into engendering

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the placebo response. Which of those are critical, we do not yet know."

### Future Implications

Experts agree that the results of this study could have important implications for the treatment of depression.

The research could also aid drug companies in the development and approval of new medications. According to Bodkin, the Food and Drug Administration currently requires that new psychiatric medications be proven superior to placebos in at least two multi-center, double-blind clinical trials.

"You could use this imaging to rule out placebo responders," says Bodkin, thus making it easier to prove a new medication's efficacy.

The study's results also can have an impact on an individual level.

"We know from other studies that if someone responds to placebo in the short-term, that effect will not last," says Dr. Madhukar Trivedi, director of the depression and anxiety disorders program at the University of Texas, Southwestern Medical Center in Dallas. Also, people who continue to take placebos may have those benefits wear off.

A similar effect was noted in the current study. "Most of the people who were placebo responders within a month of breaking the blind had a relapse of their condition," explains Leuchter.

Imaging studies may help identify these patients early on, before they relapse. They may then benefit from additional therapy.□

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