

- Inventions

A brain implant for depression

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Scientists have developed an experimental brain implant that has allowed an American woman with severe depression to alleviate suicidal thoughts the moment they occur. The researchers monitored the brain activity of the patient, known only as Sarah, to identify regions that were active during depressive episodes. They then found other parts of the brain that could effectively “turn off” these feelings when pulsed with electricity. The implant, adapted from a device used to treat epilepsy, constantly looks for brain activity associated with depressive thoughts and delivers a short burst of electrical stimulation to interrupt the signal. “My daily life had become so restricted and impoverished by depression that I felt tortured by each day,” Sarah told CNN.com. “When I first received stimulation, I felt the most intensely joyous sensation, and my depression was a distant nightmare.” The researchers, from the University of California, San Francisco, caution that the personalized treatment will require years more research. But for people with severe and seemingly untreatable depression, the trial offers genuine hope.

conclusion of two new studies into airborne transmission, reports The New York Times. The first showed that the Alpha variant was more likely than previous strains to infect people via aerosols, the tiny droplets that can float over long distances indoors. The second found that people infected with Alpha exhaled 43 times more virus into aerosols than those with older variants. Although both studies focused only on Alpha, the Delta variant may also be more contagious for the same reason. Neither study changes the broad picture of how the virus spreads, but they may signal the need for more mask wearing indoors and for the use of tighter-fitting masks. “This is not an Armageddon scenario,” says Vincent Munster, from the National Institute of Allergy and Infectious Diseases, who co-authored the first study. “It is like a modification of the virus to more-efficient transmission, which is something I think we all kind of expected.”

their heart health with a low-carb diet that’s high in unsaturated fats, reports the New York Post. Researchers recruited 164 overweight and obese volunteers, who were assigned one of three diets: one in which 20 percent of calories came from carbs, another at 40 percent, and one at 60 percent. Protein was kept steady, so the remaining calories in each diet came from fats—most of them unsaturated, the kind found in olive oil, nuts, seeds, and fish. After five months, those in the low-carb, high-fat group saw a 15 percent reduction in levels of lipoprotein, a fatty particle linked to heart disease. The group’s lipoprotein insulin resistance scores, which are linked to type 2 diabetes and cardiovascular issues, also fell, while levels of a protein hormone that can help increase insulin sensitivity rose. “These results are broadly consistent with small feeding trials and behavioral studies,” concluded the researchers from several Boston-area health organizations. They say the findings warrant further study, in particular on people who aren’t overweight or obese.