

UCSD Psychiatry Dept. To Study Bipolar Patients With Major Grant From National Institute Of Mental Health

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Sue Pondrom

Psychiatric researchers at the University of California, San Diego (UCSD) School of Medicine have received a five-year, \$1.25 million grant from the National Institutes of Mental Health to study how patients with Bipolar Affective Disorder, also known as manic-depressive illness, regulate their behaviors and thoughts. During manic episodes, patients with bipolar disorder engage in extreme and often impulsive behaviors, have an exaggerated sense of their abilities, speak extremely fast and exhibit hyperactivity in the form of excessive motor movements. These behaviors are thought to result from impairments in brain systems that regulate behavior.

Led by UCSD associate professor of psychiatry, William Perry, Ph.D., one aspect of the innovative project will track patients' movement patterns when they are placed in a new and interesting situation. Specifically, the researchers will utilize a unique data-recording device called the "LifeShirt," to measure the hyperactive and repetitive movements that characterize the manic phase of bipolar disorder. The LifeShirt System from VivoMetrics[®] is a computerized vest that continuously monitors the patient's movements.

"It's too difficult to measure the behavior of people unless you have an apparatus that can take precise measurements while the person moves freely," Perry said. "The LifeShirt offers a promising approach to helping us learn about the underlying brain function of patients with bipolar disorder."

The researchers will also examine how bipolar patients "screen" out or filter unimportant information from the environment. According to Perry, "Patients with bipolar disorder have difficulty screening excessive or unimportant information, which may lead to the inappropriate behaviors that we see during their manic episodes."

This research in patients is based upon parallel studies with mice by co-investigators Mark Geyer, Ph.D., UCSD professor of psychiatry, and Martin Paulus, M.D., UCSD associate professor of psychiatry. When rodents are given drugs such as amphetamines or have genetic abnormalities that change brain chemistry, they exhibit abnormal and distinctive movement patterns as well as difficulties in filtering information. The medications that are used to treat bipolar disorder normalize these behaviors and thoughts.

Perry and his colleagues hope that, by studying the brain's screening or filtering mechanisms in manic patients before and after they are treated with medication, they will be able to compare their results to those that have been collected in mice. If so, they believe the mice can be used to discover new and improved drugs. The collective findings might then offer insight into the chemical imbalances and genetic abnormalities that appear to contribute to bipolar disorder.

Media Contact: Sue Pondrom (619) 543-6163