UC San Diego Health

UC San Diego Opens New Down Syndrome Center

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Effort will study and treat condition in adults

Doctors and scientists at the University of California, San Diego School of Medicine will soon open one of the first programs in the United States to combine academic research with the treatment of adults with Down syndrome.

The Down Syndrome Center for Research and Treatment (DSCRT) officially launches Sunday, March 13, with a reception hosted by the Down Syndrome Association of San Diego. The event will be held from 2 to 4:30 p.m. at the Center for Neural Circuits and Behavior building on the School of Medicine campus in La Jolla.

Down syndrome is caused by a chromosomal abnormality that results in distinct physical and neurological symptoms. Patients with Down syndrome are also at greater risk of developing Alzheimer's disease. According to the National Down Syndrome Society, approximately 400,000 people in the United States currently have Down syndrome; one in every 733 American babies is born with the condition.

The DSCRT encompasses several research labs located at the UCSD School of Medicine, plus an adult treatment center at the Perlman Medical Offices, adjacent to the UC San Diego Thornton Hospital in La Jolla. A Down Syndrome Center for pediatric treatment, sponsored by DS Action, a San Diego advocacy group, is based at Rady Children's Hospital.

"We welcome this opportunity to deliver comprehensive care and translate the latest research discoveries to the clinical realm," said Michael Rafii, MD, PhD, assistant professor of neurosciences who treats adult Down syndrome patients and serves as DSCRT's clinical director.

DSCRT scientists and doctors will collaborate with the Down Syndrome Consortium, a new group of leaders from local research, medical and advocacy communities who will assess needs and develop a model for expanding treatment options, said William Mobley, MD, PhD, chair of the UCSD Department of Neurosciences and DSCRT executive director.

A leading expert on the neurobiology of Down syndrome, Mobley said advances in health care, education and inclusion in mainstream society have helped people with Down syndrome to lead fuller, more productive lives.

"They are also living longer, and as they age there is increased occurrence of the symptoms associated with Alzheimer's disease," he said. "In fact, about 25 percent of individuals with Down syndrome over age 35 increasingly show clinical signs and symptoms of Alzheimer's type dementia. By age 60, more than half show cognitive decline. This points to the increasing need for research and patient care."

Major emphasis will be placed on better understanding the biology of brain circuit formation and the causes of Alzheimer's disease in people with Down syndrome. A recent study, for example, suggests that boosting norepinephrine – a neurotransmitter that helps nerve cells communicate – can reverse cognitive decline and even improve cognition in mice genetically engineered to mimic Down syndrome.

"I believe it might be possible to treat Down syndrome early in life, preserving and restoring cognitive function before it is permanently lost," Mobley said. "And doing so might also prevent the damage that eventually results in Alzheimer's disease."

Rafii said the next step will be to develop clinical trials for young adults with Down syndrome.

Other DSCRT researchers at UC San Diego include Pavel Belichenko, MD, PhD, associate adjunct professor; Alexander Kleschevnikov, PhD, assistant professor; Steven Wagner, PhD, project scientist; and Chengbiao Wu, PhD, assistant adjunct, all with the UCSD Department of Neurosciences.

For more information about DSCRT, visit downsyndrome.ucsd.edu or email downsyndrome@ucsd.edu. For appointment information, adults should call 858-657-8540.

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