

Local Surfing Community Supports UC San Diego's Innovative Spinal Cord Regeneration Research

Grassroots organizations help fund Dr. Mark Tuszynski's groundbreaking Spinal Cord Regeneration Research Program to help those suffering from paralysis

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From left, Dr. Mark Tuszynski, Tony Mezzadri, and his mother, Suzanne with the ceremonial check for \$17,000. Mezzadri was paralyzed in a surfing accident more than a decade ago.

With unsteady hands, San Diego resident and surfing enthusiast, Tony Mezzadri handed over an oversized check in the amount of \$17,000 to Mark Tuszynski, M.D., Ph.D., head of the Center for Neural Repair and the Translational Spinal Cord Regeneration Research Program at the University of California, San Diego. The donation was given to support research into spinal cord regeneration for those who have become paralyzed due to injury. Mezzadri, more than anyone at the ceremonial check presentation that day, understands the effects that such an injury can have on one's life. Mezzadri is paralyzed from the neck down.

In 1994, Mezzadri suffered a severe spinal cord injury in a surfing accident in Ocean Beach, which left him with no movement in his legs and limited movement in his hands and arms. That same year, a group of his fellow surfers began The Tony Mezzadri Surf Classic as a fundraiser to assist Mezzadri with emotional support and unexpected expenses following his accident. The Sunset Cliffs Surfing Association (SCSA), which has hosted the annual surf classic for more than a decade, now donates all proceeds to Tuszynski's spinal cord research program at UC San Diego in hopes of developing restorative therapies for such debilitating injuries.

Tuszynski and the scientists working in his lab have received a stream of private funding in recent years from grassroots organizations with ties to San Diego's surfing community, including SCSA and the Life Rolls On Foundation, another local nonprofit founded to help fund research and educational efforts on behalf of people suffering from paralysis caused by spinal cord injuries. The organization was established in 1999 by brothers Josh ('98) and Jesse Billauer after Jesse, one of the world's top amateur surfers at the time, suffered a severe spinal cord injury from a surfing accident, ending his ambition to become a professional surfer. Life Rolls On has donated \$15,000 toward Tuszynski's research and in total has given more than \$200,000 in support of spinal cord injury research.

"We greatly appreciate these gifts from the local community," said Tuszynski. "Around 40 percent of our funding comes from non-profit foundations and individual donors. Private funds such as these are extremely important in supporting our most critical needs, ranging from retaining qualified scientists to maintaining of our facilities and research materials."

The research program has implemented groundbreaking, innovative strategies to promote regeneration of nerve cells including the use of a combination of therapies and cell grafts at the site of a spinal cord injury. The scientists are working to stimulate new nerve fibers, called axons, to grow around the injury site and extend into surrounding tissue. The axon is a critical communication path from the nerve cell, with many sensory axons extending from the spine to the brain. When the spine is severely damaged, that connection is lost and

gaps form in the spine. Growth and expansion of the axons within the injury site provides a framework for additional communication to the brain, which is expected to allow those suffering from severe spinal cord injury to experience more functional use of their limbs.

"The ultimate goal of our research is to improve the function of paralyzed patients," said Tuszynski. "While complete functional recovery after spinal cord injury remains an elusive goal, it is not unrealistic to believe that therapies will be forthcoming that achieve more modest gains, such as an increased ability to use the arms or hands in people who are quadriplegic."

According to the Life Rolls On Foundation, there are currently more than 250,000 Americans with spinal cord injuries, and approximately 11,000 new injuries occur each year.

Tuszynski's pioneering research and advances in the field are providing a sense of hope and promise for those, just like Tony Mezzadri and Jesse Billauer, who have been touched by the effects of severe spinal cord injuries. At the same time, however, the strength, positive outlooks and work of these two men and their families to develop such grassroots organizations have led to the cultivation of thousands of dollars in funding for research which someday may help the hundreds of thousands of people who suffer from similar injuries throughout the country, and the world.

"The support from these organizations is an inspiration to the scientists in our laboratory because it shows how much the community appreciates the importance of this kind of research," said Tuszynski, as he thanked the group of fundraisers who presented the proceeds from the Mezzadri event.

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