Treating Untreatable Neurological Disorders

Mark Tuszynski
Professor, Department of Neurosciences, Director, UCSD Translational Neuroscience Institute

CURRENT RESEARCH

Exploiting new technologies for treatment avenues for previously untreatable conditions

Several diseases of the nervous system are progressive and untreatable, robbing humans of their function, their intellect or their mobility. Alzheimers disease is the most common neurodegenerative disorder in the United States and the sixth most common cause of death in the United States, afflicting over five million individuals. This number is rising daily. Despite its prevalence, we lack effective therapies for stopping or slowing degeneration of the disease. What should be the "Golden Years" become the years of challenge and chronic care.

Spinal cord injuries, on the other hand, tend to afflict people at a young age, and result in decades of impaired function and chronic medical illness. Therapies to restore neurological function are lacking.

Dr. Mark Tuszynski is trying to identify useful therapies to have a major impact on these tragic and currently untreatable diseases of the nervous system. He is applying cutting-edge technologies, including gene therapy and stem cell therapy, to disorders such as Alzheimer's disease, spinal cord injury and ALS. Using gene therapy to deliver potent growth factors to the nervous system, he aims to prevent or reduce cell loss in Alzheimer's disease and ALS. Using the remarkable biology of neural stem cells, he aims to form new neural connections across sites of severe spinal cord injury to restore function after even chronic injury. And using the techniques of modern neuroscience, he aims to understand basic mechanisms through which the brain codes for new memories. Findings from some of this work have already moved into human clinical trials, and more potential therapies are in the pipeline for first in human clinical trials in Alzheimer's disease, ALS...

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AFFILIATION

University of California, San Diego

EDUCATION

- Ph.D., in Neuroscience, 1991,University of California, San Diego
- Neurology Residency, 1987,Cornell University Medical Center
- M.D., in Medicine, 1983,University of Minnesota
- B.S., in Biology, 1979,University of Minnesota

AWARDS

- Jacoby Award, American Neurological Association, 2013
- Elected Fellow, American Neurological Association, 2013
- Elected to The Dana Alliance for Brain Initiatives, 2012
- Zenith Award, Alzheimer's Association, 2012
- Goldberg Award Lecture, University of Rochester, 2011
- and 4 more...

RESEARCH AREAS

Life Science, Neurological / Cognitive, Regenerative Medicine, Stem Cell

FUNDING REQUEST

Your contributions will allow Dr. Tuszynski to complete current pre-clinical trial research imperative for moving these experimental approaches to the first in-human clinical trials. He is on the verge of testing successful therapies for some of life's most severe and debilitating conditions. Funding will finalize the fundamental research needed for translating these therapies into practical approaches in humans.