

Measuring recovery after brain and spinal injury in rodents and non-human primates Symposium

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Preclinical evaluation of treatment strategies aimed at improving outcomes after CNS injury require reliable outcome measures of neurological recovery that are relevant to human clinical trials. This symposium will examine a number of behavioral measures used to evaluate neurological recovery in animals after CNS injury, including the “BBB” locomotor scale and autonomic functional outcomes for spinal cord injury (SCI), tests for forelimb function in brain and spinal injury models in rodents, as well as forelimb tests for non-human primates, and the use of a swimming test for evaluation of recovery after rat SCI. In the final presentation, mathematical methods for evaluating the usefulness of all these measures, and their relationship to underlying mechanisms of repair and recovery will be discussed, and the development of a large database and data mining approach to improving preclinical neurological testing for CNS injury will be presented.

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Symposium contents

Measuring a broad spectrum of clinically relevant outcomes after experimental spinal cord injury

Jacqueline C. Bresnahan and Yvette S. Nout

The Schnell Swim Test (SST) to measure motor function and recovery in spinal cord injured rats

Mirjam Gullo, Eva Hochreutener, Dina Schnell, Jeannette Scholl, Martin E. Schwab, and Lisa Schnell

Skilled Limb Use in Rat Models of Human Neurological Disease

Gerlinde A. Metz

Measuring recovery of forelimb function after CNS injury in rodents and primates, with notes on man

Michael S. Beattie and Karen-Amanda Irvine

Translational measures of behavioral function after spinal cord injury: A multivariate study of outcomes across species

A.R. Ferguson, G.C. Courtine, E.S. Rosenzweig, D.L. Jindrich, J.C. Gensel, K.-A. Irvine, V.R. Edgerton, M.H. Tuszynski, J.C. Bresnahan, and M.S. Beattie