



Department of Physical Therapy and Rehabilitation Science

Published on *Department of Physical Therapy & Rehabilitation Science* (<https://ptrehab.ucsf.edu>)

[Home](#) > [Research](#) > [Overview](#)

Research



The Department demonstrates scientific inquiry and critical thinking within the academic programs and in clinical practice. Faculty members participate in a variety of basic, clinical and translational research studies. Clinical and outcomes research take place in the Outpatient Physical Therapy Faculty Practice, the PhysFit Physical Therapy Health and Wellness Center, and the Human Performance Center on the Mission Bay campus. Basic science studies are carried out in laboratories on the Parnassus campus and in the Brain and Spinal Injury Center (BASIC) ^[1] at San Francisco General Hospital.

Areas of research emphasis include in vivo animal models to study traumatic brain and spinal cord injury, cranial irradiation, chronic neuroinflammation, and post translational protein alterations that affect cognitive functions. A longer-term goal is to understand the mechanisms responsible for motor sensory loss after spinal cord injury and cognitive dysfunction associated with neurodegenerative diseases such as Alzheimer's disease, fronto-temporal dementia as well as traumatic brain injury, and to identify and test interventions that may improve motor, sensory, and cognitive function.



To support this research effort, the Department oversees the Neurobehavioral Core for Rehabilitation Research (NCRR) [2]. The NCRR is a full service core facility that houses instrumentation to phenotype mice in an optimally controlled environment. Areas of emphasis include metrics to assess response to noxious stimuli, locomotor function, spatial learning and memory, anxiety, and forced exercise. The NCRR is open to all members of the UCSF community and to qualified researchers outside the University. Investigators may consult with core specialists and select outcome measures that are most relevant to the expected behavioral phenotype.

Basic and clinical studies are interdepartmental and collaborative, and occur in conjunction with colleagues at the Cancer Center and Gladstone Institute and within the Immunology Program and the Departments of Anatomy, Bioengineering, Radiology, Neurology, Neurosurgery, and Nursing. Students are integral to these research collaborations, benefiting from the multiple perspectives that collectively define and guide research directions.

The faculty are involved in a variety of basic, clinical, and translational research studies. Read more about each faculty member's research projects under the Ongoing Studies [3] page.

Contact Us
Make A Gift
UCSF Main Site

© 2015 The Regents of the University of California

Source URL: <https://ptrehab.ucsf.edu/research>

Links

[1] <http://www.brainandspinalinjury.org/>

[2] <https://ptrehab.ucsf.edu/neurobehavioral-core-rehabilitation-research>

[3] <https://ptrehab.ucsf.edu/research-spotlights>