The discovery that many adult organs, including the brain, harbor stem cells with the capacity to regenerate vital tissues has fueled a new science of regenerative medicine. Research at UCSF and elsewhere has identified neural stem cells in the embryonic and adult brain. These insights help to guide efforts to generate replacement nerve cells from stem cells. The promise of these studies is that cells created and tailored in the laboratory will be able to promote the repair or regeneration of brain areas injured in devastating neurological diseases such as Parkinson’s disease, spinal cord injury, Alzheimer’s disease, stroke, and ALS (amyotrophic lateral sclerosis or Lou Gehrig’s disease). The potential for cell replacement strategies to treat these neurological diseases is being explored in multiple laboratories at UCSF, including both the Parnassus and Mission Bay campuses as well as UCSF affiliated hospitals and other clinical sites.

The Brain and Nervous System pipeline is directed by Drs. Arnold Kriegstein and Arturo Alvarez-Buylla.