

## **Stroke Imaging**

This project will investigate the evolution of treated and untreated stroke in patients recruited from the collaborative brain stroke program between NINDS, the CC, and Suburban Hospital. The study will use anatomical and functional imaging techniques with emphasis on the acute and subacute stage (< one month) of the disease.

As the availability of new therapeutic options for the management of acute brain stroke increases, the need to define the evolution of the disease becomes paramount, particularly as therapeutic windows, defined by known and perhaps yet undiscovered parameters, may exist. Defining these parameters will be based on state-of-the-art imaging technology with the potential of clarifying the division between ischemia (reversible damage) and infarction (irreversible). Measures of lesion size and distribution along with vascular morphology, diffusion, perfusion, flow-related, and metabolic measures will be obtained over time. We foresee these measurements will significantly improve our understanding of cerebral ischemia and introduce diagnostic and quantitative tools to guide therapy and measure its efficacy.