

Recovery and brain plasticity: methodological issues

Stefano Cappa*

Università Vita Salute San Raffaele Milano

*with Daniela Perani, Paolo Vitali§, Ana Inès Ansaldo§ and Yves Joannette§

§Université de Montréal

In my talk I will discuss some methodological problems related to imaging studies of recovery. In particular, I will address the issue of recovery from focal neuropsychological disorders, such as aphasia and neglect, drawing from our research experience in this field. Two basic mechanisms, i.e. regression of diaschisis and functional re-organisation, have been considered to play an important role in neuropsychological recovery. The results of recent investigations using positron emission tomography and functional magnetic resonance are providing a closer look to the contribution of these mechanisms in different stages of recovery. An integration will be attempted between empirical findings and neurological theories of functional recovery, taking into account the extent and the limits of plasticity in the adult brain.