The Cognitive Neuroscience of Decision Making in for Neurosurgeons and like Professionals.

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**Introduction**

The mindful discipline of Neurosurgical treatments is a melding of science and art with balanced decisions based in training bias and experience (analytic memory), and at times, the introjection of explicit memory (intuitive). There are numerous decision-scenarios that are objected to by neurosurgeons to create individualized treatment plans for each patient. The extent of neurological diseases are not always known before entering the operating room. Once in surgery, neurosurgeons utilize a careful and balanced approach to these sometimes daily lifesaving determinations.

The purpose of this paper is to discuss and recontextualize the dual approach to decision-making and neuroimaging evidence to support this phenomena in neurosurgery (medicine). Albeit emotion or experience, the ability to render pensive, yet rapid decisions in the neurological foray is an acquired skill that mandates keen situational sensibilities and experience.

**Citations**

Decision-making can be seen as the link between memory of the past and future actions. This chapter reviews selected topics in decision neuroscience, with a particular focus on the links to learning and memory, and a particular emphasis on regions within prefrontal cortex. https://www.ncbi.nlm.nih.gov/pubmed/28713812

**Methods**

A meta-analysis of neurocognitive research literature illustrates the processes of decision making that most individuals make both intuitively and analytically, but focuses mainly on the emergent behaviors of humans when risk is involved and where certain portions of the limbic system/fronto-parietal lobes are involved in these transactions. Discussions surrounding reward and perceptual decision making are deliberated as the applicability to complimentary systems associated with the basal ganglia has been conferred. We also render casual opinion to the role of combination-decision making in the practice of medicine as necessary method of utilization...