

**Course ID:** CMEC36

## **Neuroanatomy for psychiatrists**

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**Educational Objectives:** To give the participants a reasonable understanding of the neuroanatomical structures and circuits known to be crucially involved in major neuropsychiatric disorders.

**Course description:** Uncertainties in regard to the anatomy and function of the limbic system has generated an increasingly contentious debate about its relevance in modern neuroscience. With this in mind, this course will be based on a purely anatomical approach as we define and discuss the neuronal structures, which are known to be affected in major neuropsychiatric disorders. The course is divided into three parts: an introductory lecture, an one-hour video-uptake of a live dissection of the human brain, and a closing discussion section.

The main objective of the introductory lecture is to present a recently developed anatomical concept of an expanded version of the limbic lobe, which is defined on the basis of cortical development rather than on comparative gross-anatomical and topographical features. This makes the limbic lobe concept relevant in many fields of neuropathology and neurodevelopment, including in all likelihood schizophrenia, which is increasingly conceived of as a developmental disorder. The other main objective of the introductory lecture is to familiarise the participants with the “new anatomy” of the basal forebrain, including the ventral striatopallidal system and the extended amygdala. The importance of these two systems is reflected by the fact that they, together with the basal nucleus of Meynert and lateral hypothalamus, serve as major output channels for the above-mentioned expanded version of the limbic lobe.

The video-taped dissection, which is based primarily on a series of coronal brain sections, is focussed on the “greater limbic lobe” and the “new anatomy” of the basal forebrain. The dissection is performed under an ultrascopes with a zoom-mechanism, which permits easy magnification of anatomical structures and the insertion of explanatory figures and photographs to complement or explain the gross-anatomy displayed on the coronal brain sections.

In the last hour we will discuss clinical-anatomical correlations of the major neuropsychiatric disorders in order to highlight the importance of the “greater limbic lobe” and its cortico-subcortical neuronal circuits. Examples to this effect, from pathology and imaging studies, can be found in the clinical literature of all the major neuropsychiatric disorders, including schizophrenia, mood disorders, obsessive-compulsive disorders, Alzheimer’s disease and addictive disorders.

**Educational methods and course materials:** Two slide projectors and one or two (depending on number of participants) TV screens with VCR. Handouts are restricted to a couple of pictures of the “greater limbic lobe” and a copy of a short paper on the “new anatomy” of the basal forebrain to be published in a forthcoming edition of the Encyclopedia of Neuroscience.

**Target audience:** Biological Psychiatrists.

**Course level:** Basic knowledge of brain anatomy will be helpful.