



## Course Announcement

# The role of EEG in the Diagnosis and Management of Epilepsy

## Basic course - 6<sup>th</sup> edition

E-Learning Course

### Course content

The course will cover the basic elements of the practice of EEG in its application to the diagnostic work up and the management of persons with suspected or already established epilepsy, adults and children. It will be practice oriented and aimed at the general neurologist / paediatric neurologist / paediatrician dealing with - but not exclusively involved in - epilepsy care. Subject material will emphasize the basic the role of the (standard) EEG in the diagnosis and management of epilepsy, common misconceptions (positive and negative) and potential pitfalls. Attention will be given to practical aspects, including the set-up of an EEG lab, minimal standards, electrodes, montages, provocation methods and the optimisation of EEG requests and reports, specifically in the context of epilepsy.

Since a follow-up course, dealing specifically with pediatric EEG, including neonates, and epilepsy, is available no special attention is given to these subjects in this basic course. For pediatric neurologists without extensive basic EEG expertise, however, the current course is necessary to obtain the basic knowledge to be able to participate in the pediatric course.

Clinical aspects will include definitions of spike, spike and wave, sharp wave, etc., examples of various types of epileptiform activity, sensitivity, specificity and predictive value of specific EA patterns for diagnosis of epilepsy or specific epilepsy syndromes, the recognition of non epileptic sharp phenomena, benign variants & artifacts and the possible diagnostic significance of non specific EEG phenomena. Diagnostic significance of spontaneous or induced sleep will be dealt with. The course will address the different kinds of EEG studies, extending from standard awake recordings to extensive long term EEG and video monitoring studies, with their specific requirements and indications but, since this is a basic course, intended to be relevant for day to day practice in average clinical circumstances, the emphasis will be on standard EEG, including sleep and the regular provocation methods in adults and children.

Some basic knowledge of EEG, both theoretical and practical, is a prerequisite since the technique of EEG recording and presentation and basic underlying neurophysiology will only be dealt with insofar as relevant for epilepsy.

### Course units

Introduction to the VIREPA platform; Introduction to the course; Basic technology I: Theoretical aspects; Basic technology II: Practical aspects; Interictal & Ictal EEG patterns I and II; Provocation Methods: Hyperventilation, Intermittent photic stimulation; Sleep; Special studies, long-term video/EEG monitoring & management of epilepsy; Differential diagnosis of epileptic and non epileptic events.

### **Target group & entry criteria**

The course is intended for neurologists, paediatric neurologists and paediatricians, dealing with patients with epilepsy, including the EEG studies of these patients.

- A minimum of 4 months of practical experience with clinical EEG is required as well as
- 3 years of training in neurology, neuropaediatrics, clinical neurophysiology, psychiatry or neurosurgery, or combinations of these.

### **Learning objectives**

Successful completion of the course will enable the participants to improve the quality of the diagnostic approach in adults and children with epilepsy or other suspected paroxysmal disorders in the EEG lab of their clinics. It will help them to decide on the specific type of study, indicated for specific clinical problems. It will improve their competence and confidence in the recognition and differentiation of epileptic and other phenomena in the adult and paediatric awake and sleep EEG and their understanding of the clinical significance of these phenomena for the diagnosis and differential diagnosis of epilepsy and epilepsy syndromes.

### **Course format**

The course itself is divided into 10 units, beginning with a one week introduction to the VIREPA e-learning platform, followed by 9 learning units of two weeks each. Additional educational material (textbooks and references) required for this course is available for downloading from the course's server repositories. To earn credits in each learning unit, tasks will be successfully completed within an active online communication process among all participants, guided by the experts in the discussion fora on the e-learning platform. These tasks help to deepen the theoretically gained knowledge from the learning material and enable transfer of this knowledge to the daily clinical practice of each learner. The participants are expected to spend about 8 hours (~4 hours/week) on individual study of the learning material, for reading/submitted contributions to the course's virtual discussion forum and for the completion of the learning unit tasks, which includes the contribution of one's own case histories and EEG samples.

All tutors are currently practicing in their respective speciality field, moderating the distance courses in addition to their regular duties. This gives participants the unique opportunity to draw upon their expertise and practical experience even beyond the statutory requirements of the course.

**Course fee:** 1000 Euro. A restricted number of bursaries will be available. For participants living in countries with "low" and "lower middle" income, self payment for approved bursaries will be 250 Euro. (See categories according to the statistics of the World Bank: <http://siteresources.worldbank.org/DATASTATISTICS/Resources/CLASS.XLS>)

**Number of participants:** up to 30

### **Course Directors**

Dr. Walter van Emde Boas and Dr. Demetrios Velis

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