

## Course Announcement

# The role of EEG in the Diagnosis and Management of Epilepsy in Neonates & Children – 1<sup>st</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 children with suspected or already established epilepsy. It will be practice oriented and aimed at the general neurologist/pediatric neurologist /pediatrician 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.

First part will cover the normal EEG patterns from premature to adolescent (wakeness and sleep). Clinical aspects will include definitions of epileptiform EEG patterns according to age, examples of various types of epileptiform activity, sensitivity, specificity and predictive value of specific EA patterns for diagnosis of epilepsy or specific epilepsy syndromes. 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 children. EEG in epileptic syndromes in neonates, infants and children will be described from typical to atypical cases both interictal and ictal, from one to several types of seizures in a given syndrome.

Since this pediatric course will not cover basic knowledge on EEG in adults, successful participation in the VIREPA basic course on the role of “EEG in the diagnosis and management of epilepsy” is a prerequisite prior to application to this specialized course (see paragraph below on Target group & entry criteria).

### Course units

Introduction to the VIREPA platform; Technical issues in this age group; Normal EEG patterns in premature and neonates; Normal EEG patterns in infants and children; EEG in neonatal pathology; EEG in neonatal and infantile epilepsies; EEG in epilepsies in early childhood; EEG in epilepsies in late childhood; Non epileptic events in neonates and children.

### Target group & entry criteria

The course is intended for pediatric neurologists and pediatricians, dealing with neonates and children 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, neuropediatrics, clinical neurophysiology, psychiatry or neurosurgery, or combinations of these.

- Since this pediatric course will not deal with basic technology, it is available only for students who have successfully participated in the VIREPA EEG adult basic course.
- Exceptions from this rule will only be made for applicants who are already competent in adult EEG (*e.g. who were successful in the ASEPA EEG examination, who have been a fellow in a reputable adult EEG laboratory for a period of time, or who have completed the Italian Master Course in Neurophysiology*), and who specifically want to learn pediatric and neonatal EEG. Relevant certifications must be added to the application.

### **Learning objectives**

Successful completion of the course will enable the participants to improve the quality of the diagnostic approach in neonates 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 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 9 units, beginning with a one week introduction to the VIREPA e-learning platform, followed by 8 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) per unit on individual study of the learning material, for reading/submitting 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:** 900 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 225 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. Perrine Plouin, France

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