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Epilepsy in the Developing Brain: How to make progress ?

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OBJECTIVES

- **Understand** the biological basis of pediatric epilepsy, **ameliorate** its diagnosis and prognosis
- Improve the **quality of care** in children with epilepsy
- Improve the **quality of life** of children with epilepsy



How to make progress ?

1. To improve knowledge:

- Brain development vs epileptogenesis; Why is the immature brain more vulnerable to develop epilepsy? What are the causes of early and late-onset epilepsy?
- Causal heterogeneity of pediatric epilepsy
- Develop new experimental models that are best adapted to pediatric epilepsy.
- Evaluate the impact of epilepsy on cognitive outcome and morpho-functional brain development

How to make progress ?

2. To act:

- Invest in and reinforce investigations of childhood epilepsies.
- Develop EU-wide consortia of basic and clinical scientists with different backgrounds.
- Develop post genomic research of developmental brain disorders (from bench to bedside and back).
- Reinforce human tissue based research and Epilepsy Brain/Tissue Banks.
- Perform trials in age-related epileptic syndromes. Develop innovative trial designs.
- Identify age- and disease-specific drug targets and translate these into drug discovery.
- Design new strategies for preventing and cure childhood epilepsy and preventing cognitive deterioration.

Actions to be taken:

- a) Develop EU-wide interdisciplinary consortia of basic and clinical researchers with different backgrounds



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Functional Genomics and Neurobiology of Epilepsy: a Basis for New Therapeutic Strategies

Title: FUNCTIONAL GENOMICS AND NEUROBI...
Acronym: EPICURE
Project number: LSH-037315
EC contribution: 9.883.259 €
Duration: 48 months
Starting date: 01/01/2007
Instrument: Integrated Project

Epilepsy is a serious and common neurological disorder characterized by recurrent, unprovoked neuronal discharges.

As many as 6 million people in Europe currently have active epilepsy that has major implications not only for health but also for independent living, education and employment, mobility, personal relationship, and prospects for insurance. The resulting economic burden has been estimated at 18 billions Euros per year (European White Paper on Epilepsy 2001). Although the European epileptological community has an important tradition of scientific research contributing by one third to the worldwide scientific production in the field, according to the conclusions of the European White Paper on Epilepsy (2001), it "lacks central coordination". Epidemiological observations have led to the consensus that genetic factors play a central role, especially in the so-called idiopathic generalized epilepsies, and that maladaptive developmental processes also contribute to epileptogenesis (the development of epilepsy). Precisely what genetic factors are involved, and how they interact with developmental alterations, remains far from established. Moreover, their implication for understanding the principle of drug and other treatments of epilepsy

... integrate knowledge and expertise of each specialist (solutions to complex problems offered in a flexible and open way)





Functional
Genomics and
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Allow long term actions by
renewal of epilepsy calls

Actions to be taken:

b) Teaching programs (continuous training programs on pediatric epilepsy)



14-26 July, 2013

11th San Servolo Course on Epilepsy: Brain Exploration and Epilepsy Surgery
San Servolo, Venice, Italy



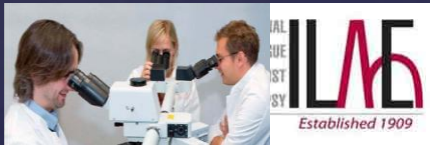
18-23 August, 2013

The 7th Baltic Sea Summer School on Epilepsy
Tallinn, Estonia



27-28 August, 2013

Neurosurgical Aspects of Epilepsy in Southeastern Europe
Ljubljana, Slovenia



16 - 20 September, 2013

1st International Summer School for Neuropathology and Epilepsy Surgery
Universitätsklinikum Erlangen



3 - 9 November, 2013

7th Migrating Course on Epilepsy
ILAE Cyprus Epilepsy Society
Nicosia, Cyprus

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- b) Teaching programs (continuous training programs on pediatric epilepsy)

Inspiring and attracting young scientist and pediatricians to development & epilepsy research

