

Research Report "Epilepsy" 2005/2006

Report on research activities and
research projects at the clinics of the
Epilepsy Centre Bethel

Society for Epilepsy Research e.V.
Epilepsy Centre Bethel, Bielefeld, Germany



Research Report "Epilepsy" 2005/2006

Ladies and Gentlemen,

With the Research Report "Epilepsy" 2005/2006 we present a concise overview of the research activities at the clinics of the Epilepsy Centre Bethel, the Gesellschaft für Epilepsieforschung (GfE) (*Society for Epilepsy Research*) and the An-Institut für Interdisziplinäre Epilepsieforschung (InIEF) (*Institute for interdisciplinary epilepsy research*) carried out over the last two years.

Furthermore, we would like to present the existing research departments and highlight our co-operation partners.

The Research Report "Epilepsy" is presented in this form for the first time and we are especially interested in how it is perceived by our readers.

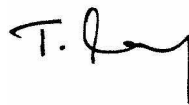
We would be grateful for any feedback (preferably via e-mail).

With kind regards,



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Preamble

Research at the clinics of the Epilepsy Centre Bethel is part of the institutional framework provided by the "**Gesellschaft für Epilepsieforschung**" (GfE) (*Society for Epilepsy Research*) and is carried out in cooperation with the "**An-Institut für Interdisziplinäre Epilepsieforschung**" (InIEF) (*Institute for Interdisciplinary Epilepsy Research*) at the University of Bielefeld.

The "**Koordinierungszentrum für Studien in der Epileptologie**" (KSE) (*Coordination Centre for Research in Epileptology*) was founded in 2004 as a new department of the GfE and takes a central operational role in the internal coordination of research, the evaluation of study requests, the organization and completion of research projects. It has firmly established itself as a service centre.

Research at the Epilepsy Centre Bethel is characterized by the following criteria:

- Our main interest is the human being suffering from epilepsy. Research should be clinically relevant and should have benefit for the patients.
- We focus on psycho-social aspects of epilepsy, prognosis of medical treatment and epilepsy surgery, pharmacoresistance, onset of epilepsy and first seizures, and on methodological research (magnetic resonance tomography [MRI], electroencephalography [EEG], syncope algorithms and linguistic analysis of the documented medical history).
- The research is integrated in a national and international network, permanently being updated and stimulated by the exchange of staff members from different institutes and countries.
- We see our research activities as an essential part of quality management in epilepsy care. Research is an essential prerequisite for maintaining our position as a prime tertiary care centre.

In the following, we will briefly outline the GfE, its departments and the InIEF, next to providing details as to our cooperation partners, research projects and further scientific activities.

1. Gesellschaft für Epilepsieforschung e. V. (GfE) (Society for Epilepsy Research)

The GfE was founded in 1955 with the objective to "... *investigate scientifically the causes and manifestations of epilepsy and its appropriate therapy, as well as supporting psychosocial and educational activities, next to developing and updating research facilities in agreement with the Bethel Epilepsy Centre.*"¹

The GfE is a recognized charitable organization with a scientific agenda.

Director: Dipl.-Betriebswirt R. Eickholt

Head of science: Prof. Dr. B. Pohlmann-Eden

Directorate: Pastor F. Schophaus (chairman), Prof. Dr. D. Dommasch, Dr. R. Engels, Herr H.J. Simm (Chancellor of the University of Bielefeld), Prof. Dr. J. Otte, Prof. Dr. F. Oppel, Prof. Dr. M. Driessen

¹ Preamble of the GfE.

1.1. Department of Magnetic Resonance Imaging (MRI)

Head: Dr. F.G. Wörmann [1.0]²

Members of staff: Dipl.-Phys. M. Mertens [1.0] (physicist), medical-radiological technologist [1.0], Dr. S. Kreisel [0.4] (in cooperation with the Klinik für Psychiatrie und Psychotherapeutische Medizin (Department of Psychiatry and Psychotherapeutic Medicine))

Services: Localization diagnostics of epileptogenic areas, pre-surgery workup

Methodological research: fMRI-EEG, voxel-based morphometry (VBM), magnetic resonance spectroscopy (MRS)

Current research focus:

- fMRI and high resolution MRI structural diagnostics in patients with epilepsy and other neuropsychiatric diseases (e.g. in cooperation with the Department of Psychiatry and Psychotherapeutic Medicine)

Special questions:

- Validation of a memory-fMRI paradigm
- Cue-driven fMRI in patients with fear auras and panic disorder
- fMRI with an emotional stroop paradigm in patients with borderline disorder
- fMRI and frontal lobe testing, decision behavior analysis
- Non-/verbal memory fMRI
- Morphology of focal cortical dysplasia (FCD) – texture analysis

Perspectives: Purchase of a 3-Tesla-MRI to improve localization diagnostics (prerequisite for continuing state-of-the-art diagnostics and research)

1.2. Pharmacological Laboratory

Head: Dr. B. Rambeck [1.0], Dr. U. Jürgens (deputy chairman) [1.0], PD Dr. T.W. May (deputy chairman) [0.2]

Members of staff: Chemical technician [1.0], medical technicians [3.8], secretary [0.6]

Services: Determination of serum concentrations of antiepileptic drugs (AED) and psychotropic drugs

Methodological research: Development and improvement of analytical methods for the determination of AED and psychotropic drugs (mass spectroscopy, automated solid phase extraction)

Current research focus:

- Collection of pharmacologic-pharmacokinetic data
- Drug interactions and side effects of anticonvulsants
- Measurement of AED concentrations in the extracellular space using microdialysis

Perspective: Pharmacogenomic studies

² Staff allotment attributed to the GfE; e.g. [1.0] means one full-time position.

1.3. Koordinierungszentrum für Studien in der Epileptologie (KSE) (*Coordination Centre for Research in Epileptology*)

Head: Prof. Dr. B. Pohlmann-Eden (medical head), PD Dr. T. May (head of sciences) [0.8], deputies: Dr. C. Brandt and Dr. E. Korn-Merker

Members of staff: study coordinator [1.0], investigating physician [0.5], study nurse [0.6]

Project employees: Ms. Trentowska (psychologist) [0.25; planned for 2 years] "Efficacy and tolerability of pregabalin in patients with epilepsy and anxiety disorder"; Ms. S. Urban, qualified epilepsy assistant (EFA) [0.5; planned for 2 years] "EFA-project"

Services:

- Support, consultation, organization, statistical analysis and coordination of scientific and clinical epilepsy studies

Current research focus:

- Tolerability, efficacy and pharmacokinetic profile of newer (and older) anticonvulsants, e.g. levetiracetam, pregabalin, zonisamide
- Underlying mechanisms of pharmacoresistance
- Psychosocial, (neuro-)psychological and public health aspects of epilepsy, e.g. gender-specific aspects, quality of life, general advice
- Anxiolytic effects of newer anticonvulsants

2. An-Institut für Interdisziplinäre Epilepsieforschung (InIEF) (*Institute of Interdisciplinary Epilepsy Research*)

Head: Prof. Dr. B. Pohlmann-Eden

Scientific board: Dr. R. Engels (director), Prof. Dr. D. Dommasch, Prof. Dr. F. Oppel, Prof. Dr. H. Markowitsch (Faculty of Psychology and Sports Sciences, University Bielefeld), Prof. Dr. A. Krämer (Faculty of Public Health Sciences, University Bielefeld)

Profile:

The primary objective of the InIEF, resulting from its affiliation with the University of Bielefeld, is the development of common research resources and the preparation of interdisciplinary research proposals (see also 3. and 4.) (DFG, BMBF, public funds).

Moreover, it is our intention to arouse further interest in scientific work in the field of epilepsy research at the University of Bielefeld, by providing opportunities to carry out internships, masters and doctoral thesis. Studies carried out at the Epilepsy Centre Bethel should regularly be presented at InIEF forums.

Once a year, the scientific heads propose new research focuses, evaluate their feasibility and funding.

Current research focus:

- First epileptic seizures and onset of epilepsy: establishment of a "First Seizure Clinic", funding application for an integrated care setting according to §114, §116; BMBF-grant: "Prevention of chronification after a first seizure and onset of epilepsy"
- Epilepsy associated with brain tumors (in the process of evaluation): feasibility of a prospective data bank (at present not yet practicable), methodological research (MRS, fMRI, EEG)
- Epilepsy in the elderly (in planning): DFG-proposal "Versorgungsforschung" together with the Faculty of Health Science, University of Bielefeld.

- Parahippocampus and memory (in planning): prospective volumetric analysis of resected tissue and memory function

Future directions: Strengthening the network with the KSE and providing a general research- and discussion platform at the Epilepsy Centre Bethel.

3. Research and study groups at the epilepsy clinic Mara

Physicians, psychologists, medical sociologists and members of other professions are actively involved in the scientific research process.

- Pre-surgical diagnostics: evaluation and neuropsychological aspects of epilepsy surgery in adults and children: Dr. A. Ebner (head of department), Dr. M. Hoppe, Dr. R. Schulz, J. Aengenendt (neuropsychologist); Dr. I. Tuxhorn (head of department), Ms. H. Freitag (neuropsychologist) and others; in cooperation with Dr. F. Wörmann.
- Drug therapy of epilepsy and other forms of non-surgical therapy in children and adults, effects and side-effects of anticonvulsants, aspects of pharmacoresistance: Dr. C. Brandt (head of department), Dr. E. Korn-Merker (head of department) and others, in close cooperation with the epilepsy outpatient clinic (Dr. M. Müffelmann, Dr. N. Füratsch and others).
- Comprehensive care, rehabilitation, consulting, educational and training programs, psychological and psycho-social aspects of epilepsy: Dr. U. Specht (head of department), R. Thorbecke (medical sociologist), Dr. D. Lahr (neuropsychologist), M. Pfäfflin (psychologist) and others, in cooperation with PD Dr. T. May
- Dissociative disorders/psychiatric co-morbidity in epilepsy: Dr. M. Schöndienst (head of department), Dr. C. Brandt and others.
- Status epilepticus: Prof. Dr. B. Pohlmann-Eden, Dr. U. Specht
- First seizure: Prof. Dr. B. Pohlmann-Eden, R. Thorbecke (medical sociologist), Dr. N. Füratsch, Dr. M. Schöndienst and others.

4. Research in the network of the Evangelisches Krankenhaus Bielefeld (EvKB) and the von Bodelschwingsche Anstalten Bethel (vBA)

Several research projects are carried out in cooperation with other departments in the Epilepsy Centre Bethel and the EvKB, respectively the vBA. These are in detail:

- vBA: "Stiftungsbereich Behindertenhilfe" (Department „Care of Disabled Persons“) (Prof. Dr. M. Seidel, Dr. B. Huber, Dr. M. Endermann (psychologist)), the BBW (vocational training center) (Dr. H. Elsner) and the BSD (Dr. L. Worms) and others
- EvKB: neurological (Prof. Dr. D. Dommasch), neurosurgical (Prof. Dr. F. Oppel) and gynaecological (PD Dr. A. Luttkus) departments in "Gilead", the Neurological Department at the "Johanneskrankenhaus" (Prof. Dr. P. Clarenbach) and especially with the Department of Psychiatry and Psychotherapeutic Medicine (Prof. Dr. M. Driessen, PD Dr. T. Beblo)
- The Institute of Neuropathology (PD Dr. V. Hans)
- The Ev. Krankenhaus Königin Elisabeth Herzberge and the Institut für Diagnostik der Epilepsien (*Institute of Diagnostics of the Epilepsies*) (Prof. Dr. H. J. Meencke and others)
- and many more...

5. Research projects

5.1. Clinical-medical aspects of epilepsy and newer (and older) anticonvulsants

Current projects:

The Epilepsy Centre Bethel initiates and participates in trials that examine the efficacy and tolerability of newer anticonvulsants in different patient groups and clinical conditions (e.g. mono- vs. combination therapy), with a special focus on the substances levetiracetam, pregabalin, and zonisamide. Pharmacokinetics and potential drug interactions are studied.

- Conversion to monotherapy with levetiracetam in children with epilepsy (+)³
- Conversion to monotherapy with levetiracetam in adult patients with epilepsy (+)
- HEAD-Study – effect of levetiracetam in children with BECTS (+)
- Multicentre, randomized, double-blind, placebo-controlled dose finding study (50, 150 and 400mg/d), in 4 parallel groups and evaluation of the effect and safety of ucb 34714 as an additive therapy (UCB N0114) (+)
- KOMET-Study/N01175 (*)

- Zonisamide in focal epilepsy (international study) (+)
- Zonisamide therapy follow-up in adult patients with drug refractory epilepsy (+)

- Follow-up of adult patients with drug refractory epilepsy on pregabalin therapy (+)
- Efficacy and tolerability of pregabalin in patients with epilepsy and anxiety disorder (+)

- Efficacy and tolerability of topiramate in patients that were treated with a combination of lamotrigine and valproate without prior sufficient effect (AWB/TOPMAT-EPY-4600) (+)

- Case reports and survey of physicians in German-speaking countries as to generic anti-epileptic therapy (+)

- Pharmacokinetics and drug interactions of oxcarbazepine
- Pharmacokinetics and drug interactions of pregabalin
- Pharmacokinetics and drug interactions of psychotropics

- ABC-transporter-gene-polymorphism in patients with epilepsy – collection of data as to the frequency of gene-polymorphisms (in cooperation with PD Dr. A. Chan (*Institute of Multiple Sclerosis Research, University Göttingen*)) (+)

Completed projects in 2005/2006

- Pregabalin BID add-on titration study (+)
- Influence of levetiracetam on sleep behaviour and architecture (+)
- Pharmacotherapy after epilepsy surgery (+)
- Experience with generics in epilepsy – survey of physicians in German speaking countries (+)
- Pharmacoresistance and intra-operative microdialysis (+)
- "ELB138 – efficacy in dogs with epilepsy" (+)

³ (+) = These studies were/are financed or partly financed by external funding.

5.2. Projects dealing with psychological, psycho-social, epidemiological and health care aspects of epilepsy

Current projects:

- Risk factors in children with epilepsy (donated project/Kidron)
- Impact of epilepsy on life style (+)
- Pre-/post evaluation of patients in the rehabilitation unit (several subprojects)
- Anxiety and depression in women with epilepsy (follow-up project) (+)
- Need of advice and epilepsy specific knowledge in women with epilepsy (follow-up project) (+)
- Qualified epilepsy assistance/epilepsy nurses ("Epilepsie-Fachassistenz" – EFA) – evaluation of the EFA project (in cooperation with Prof. Dr. B. Schmitz, Charité, Berlin and Dr. D. Dennig, Stuttgart) (+)
- Multicentre study of epilepsy in the elderly (in cooperation with Prof. Dr. Stefan, University Erlangen et al.) (+)
- Nutrient supply in children and youths with epilepsy (in cooperation with Prof. Dr. A. Hahn, Dr. M. Wolters, Medizinische Hochschule Hannover).

Completed projects:

- Project "first seizure" – survey of the participants (+)
- "Women and epilepsy" (in cooperation with Prof. Dr. B. Schmitz, Charité, Berlin) (+)
- Evaluation of an educational and training program for children with epilepsy and their parents (FAMOSSES) (in cooperation with Prof. Dr. F. Petermann, University of Bremen, and others)
- Evaluation of the EUREPA pilot project "Distance-learning course – module: genetics of epilepsy" (in cooperation with V. Hész-v. Wehrs, EUREPA) (+)

A great deal of these studies was supported by external funding provided by the pharmaceutical industry.

6. Research projects in cooperation with the University of Bielefeld (including DFG, BMBF)⁴

- Epilepsy and anxiety: Epidemiology of anxiety disorders in epilepsies (in cooperation with the Faculty of Psychology, University of Bielefeld, working group of Prof. Dr. Tuschen-Caffier)
- Linguistics and epilepsy: Development of a differential typology integrating psychopathological, communicative and neurobiological aspects of anxiety-, dissociative and epileptic disorders (in cooperation with the Faculty of Linguistics and Psychology,

⁴ Only cooperation partners on the university side are listed.

University of Bielefeld; cooperation with the epilepsy working group of PD Dr. M. Reuber at the University of Sheffield)

- fMRI and re-evaluation of trauma in borderline patients: neuronal activation of trauma-associated memories in borderline personality disorder before and after therapy (in cooperation with Prof. Dr. H. Markowitsch and Prof. Dr. M. Driessen, PD Dr. T. Beblo), DFG follow-up project ("Stroop") (in preparation/planning)
- Provocation of seizures and cardiac hyperexcitability related to cell phone use (pilot study in cooperation with Prof. G. Berg)
- Emotion and memory: DFG-clinical research group (in cooperation with Prof. Dr. Markowitsch, Prof. Dr. Driessen, Dr. Wingenbach) (in preparation) (see also point 3.)
- Epilepsy, sports and memory (in cooperation with the University of Bielefeld, Faculty of Psychology and Sports Sciences, working groups of Prof. Dr. H. Markowitsch, Prof. Dr. E. Zimmermann and Dr. L. Worms, BSD)

7. Research projects with international cooperation partners

University of Toronto / Canada:

- Predictive value of the WADA-test on outcome, with a special focus on MRI (in cooperation with Prof. M.P. McAndrews, Toronto)
- MRS, PET and SPECT in the decision algorithm of pre-surgical epilepsy diagnostics – a meta-analysis (in cooperation with Prof. Dr. R. Wennberg, Toronto)
- Experimental status epilepticus (low-magnesium model) (in cooperation with Prof. Dr. P. Carlen, Toronto)
- Angioma and epileptogenesis (in preparation; in cooperation with Prof. Dr. Ch. Wallace, Toronto)

University of Dalhousie:

- Predictive value of EEG, MRS and MRI in first seizure patients (in cooperation with Prof. Dr. Don Weaver, Prof. Dr. Mark Sadler, PhD D. Arcy, all Halifax, submitted as a grant "First Event", Province Nova Scotia)

8. Regular research and continuing medical education

- "Werkstattgespräche Bethel-Münster-Hannover" (Regular workshops in cooperation with Prof. Pape/Münster and Prof. Löscher/Hannover as of 2005)
- "Scientific day" (every 2 years; 1st "Scientific day" in December 2004, 2nd "Scientific day" planned for the beginning of 2007), alternating with workshops of selected topics (2005: therapeutic drug monitoring)
- "Montagsfortbildungen" (continuing medical education), Mara epilepsy clinic
- InIEF Meetings (2 - 3 times per semester)
- KSE-meeting monthly (R&D)
- Workshop on neuropsychological, psychosocial and clinical aspects of epilepsy (open to psychology graduate and PhD students; established summer semester 2005)
- Pharmacotherapeutical colloquium (every 2 weeks)

9. Doctoral theses, diploma- and master theses

Diploma theses (Psychology, University of Bielefeld):

- Ms. B. Loer: "Medical, social and neuropsychological predictors of social outcomes following epilepsy surgery" (2005)
- Mr. R. Lohrber: "Alertness in patients with cryptogenic focal epilepsy" (2005)

Doctoral theses (Medicine, University of Münster):

- Mr. B. Landers: "Concentrations of phenobarbital and primidone in resected temporal brain tissue in epilepsy patients and neurohistological finding" (2006)
- Ms. V. Magalova: "The predictive value of the increased bilateral hippocampal T2-values – comparison with EEG and neuropsychology"

Doctoral Theses (Medicine, University of Heidelberg, supervised by Prof. Pohlmann-Eden):

- Mr. O. Willmann: "Decision algorithms in pre-surgical epilepsy diagnostics" (2005)
- Ms. N. Elshorst: "Predictive value of WADA-testing, MRI and neuropsychological assessment in temporal lobe epilepsy"
- Ms. V. Geib: "Angioma as a model for epileptogenesis"
- Ms. M. Tokarzewski: "Clinical, neuroradiological and neurophysiological parameters of Rasmussen encephalitis"

Master thesis:

- Ms. V. Hézser-v. Wehrs: "Prerequisite for an enduring implementation of E-learning in international non-profit organizations" ("Media & Education", University of Rostock)

10. Awards

2005: Dr. J. Janszky: "Michael Prize"

Dr. A. Ebner: "Robert Wartenberg lecture award"

Dr. M. Sator: Doctoral thesis scholarship of the Austrian Academy of Sciences⁵

Dr. M. Schwabe: Doctoral thesis award of the University of Bielefeld⁵

2006: Dr. M. Schöndienst, Dr. F. Wörmann, Prof. Dr. E. Gülich: 1st poster award, Joint Congress of German and French Chapter of the ILAE, Strasbourg, 2006

PD Dr. T. May, Frau M. Pfäfflin, Frau I. Coban, Frau Prof. Dr. B. Schmitz:

4th poster award, Joint Congress of German and French Chapter of the ILAE, Strasbourg, 2006

Dr. V. Surmann: Doctoral thesis award of the GfE⁵

Prof. Dr. B. Pohlmann-Eden: Adjunct Professor of Dalhousie University Halifax

Ms. N. Elshorst, B. Pohlmann-Eden and others: „Highlight lecture“, American Epilepsy Society, San Diego, USA, 2006

⁵ Doctoral thesis in context of the clinical-linguistic project in cooperation with the University of Bielefeld

11. Publications⁶

2005

1. Beblo T, Woermann FG. Traumatisierung und cerebrale Bildgebung. In: Sexueller Missbrauch, Misshandlung, Vernachlässigung - Erkennung, Therapie und Prävention der Folgen früher Stresserfahrungen. Hrsg.: UT Egle, SO Hoffmann, P Joraschky. Schattauer, Stuttgart 2005.
2. Bösebeck F, Kellinghaus C, Loddenkemper T, Pannek H, Dinner DS, Lüders HO, Ebner A. Video-EEG Intensivdiagnostik und Epilepsiechirurgie im höheren Alter. *Akt Neurol* 2005; 32:512-7.
3. Borusiak P, Gerner P, Brandt C, Kilgannon P, Rieckmann P. Telencephalin in the serum of children after febrile seizures. *J Neurol.* 2005; 252:493-4.
4. Brandt C, Redbrake A, Oertle E, Reiners K, Ebner A. Gemeinsames Auftreten von Epilepsie und Narkolepsie. *Z Epileptol.* 2005; 18:1-6.
5. Brandt C, Brechtelsbauer D, Bien CG, Reiners K. „Out-of-body experience“ als mögliches Anfallssymptom bei einem Patienten mit rechtsparietaler Läsion. *Nervenarzt* 2005;76:1259-62.
6. Ebner A, Pannek H, Hoppe M, Schulz R. Duale Pathologie: Verlauf bei einem operativ behandelten Patienten. *Z Epileptol.* 2005; 18:29-34.
7. Fogarasi A, Janszky J, Tuxhorn I. Ictal pallor is associated with left temporal seizure onset zone in children. *Epilepsy Res.* 2005; 67:117-21.
8. Fogarasi A, Janszky J, Siegler Z, Tuxhorn I. Ictal smile lateralizes to the right hemisphere in childhood epilepsy. *Epilepsia.* 2005; 46:449-51.
9. Fogarasi A, Tuxhorn I, Tegzes A, Janszky J. Genital automatisms in childhood partial seizures. *Epilepsy Res.* 2005; 65:179-84.
10. Fogarasi A, Tuxhorn I, Hegyi M, Janszky J. Predictive clinical factors for the differential diagnosis of childhood extratemporal seizures. *Epilepsia.* 2005; 46:1280-5.
11. Frank R, Specht U. Rehabilitative Aspekte von Jugendlichen und jungen Erwachsenen mit Epilepsien. In: Frank R (Ed.). *Rehabilitation von Jugendlichen mit neuropsychiatrischen Erkrankungen.* Freiburg i. Br.: Lambertus-Verlag, 2005. S.175-190.
12. Freitag H, Tuxhorn I. Cognitive function in preschool children after epilepsy surgery: rationale for early intervention. *Epilepsia.* 2005; 46:561-7.
13. Fröscher W, Schier KR, Hoffmann M, Meyer A, May TW, Rambeck B, Rösche J. Topiramate: a prospective study on the relationship between concentration, dosage and adverse events in epileptic patients on combination therapy. *Epileptic Disord.* 2005; 7:237-48.
14. Gürtler S, Ebner A, Tuxhorn I, Ollech I, Pohlmann-Eden B, Woermann FG. Transient lesion in the splenium of the corpus callosum and antiepileptic drug withdrawal. *Neurology.* 2005; 65:1032-6.
15. Hildebrandt M, Schulz R, Hoppe M, May T, Ebner A. Postoperative routine-EEG correlates with long-term seizure outcome after epilepsy surgery. *Seizure* 2005; 14:446-451.
16. Hoppe M, Ebner A. Subclinical Rhythmic Electrographic Discharges of Adults (SREDA): Charakterisierung und differenzialdiagnostische Überlegungen bei fünf Epilepsiepatienten. *Klin Neurophys* 2005; 36:14-19.
17. Janszky J, Ebner A, Mertens M, Gyimesi C, Jokeit H, Woermann FG. Does epileptic activity influence speech organisation in temporal lobe epilepsy? In: *Cognitive dysfunction in children with temporal lobe epilepsy.* Hrsg.: A Arzimanoglou, A Aldenkamp, H Cross, M Lassonde, SL Moshe, B Schmitz. John Libbey Eurotext, Montrouge, France 2005.
18. Janszky J, Fogarasi A, Magalova V, Tuxhorn I, Ebner A. Hyperorality in epileptic seizures: periictal incomplete Klüver-Bucy syndrome. *Epilepsia* 2005; 46:1235-1240.
19. Janszky J, Hoppe M, Clemens Z, Janszky I, Gyimesi C, Schulz R, Ebner A. Spike frequency is dependent on epilepsy duration and seizure frequency in temporal lobe epilepsy. *Epileptic Disord.* 2005; 7:355-359.
20. Janszky J, Hoppe M, Behne F, Tuxhorn I, Pannek H, A Ebner. VNS: predictors of seizure freedom. *JNNP* 2005; 76:384-389.
21. Janszky J, Janszky I, Schulz R, Hoppe M, Behne F, Pannek HW, Ebner A. Temporal lobe epilepsy with hippocampal sclerosis: predictors of long-term surgical outcome. *Brain* 2005; 128: 395-404.
22. Janszky J, Jokeit H, Kontopoulou K, Mertens M, Ebner A, Pohlmann-Eden, B, Woermann FG. Functional MRI predicts memory performance after right mesiotemporal epilepsy surgery. *Epilepsia.* 2005; 46:244-50.
23. Janszky J, Pannek HW, Janszky I, Schulz R, Behne F, Hoppe M, Ebner A. Failed surgery for temporal lobe epilepsy: predictors of long-term seizure-free course. *Epilepsy Res* 2005; 64:35-44.
24. Jokeit H, Krämer G, Ebner A. Antiepileptic drugs accelerate forgetting. *Epilepsy and Behaviour* 2005; 6:430-43.

⁶ Published abstracts are not listed.

25. Koch UR, Mußhoff U, Pannek HW, Ebner A, Wolf P, Lahl R, Speckmann EJ, Köhling R. Intrinsic excitability, synaptic potentials and short-term plasticity in human epileptogenic neocortex. *J Neurosci Res* 2005; 80:715-26.
26. Koepp MJ, Woermann FG. Imaging structure and function in refractory focal epilepsy. *Lancet Neurol*. 2005; 4:42-53. Review.
27. Kruse B, Tuxhorn I, Schmitt J, Schulz R, Wörmann F, Ebner A. Klinische und EEG-Befunde bei elf Patienten mit insulären Epilepsien. *Z Epileptol* 2005;18:15-22.
28. LoCharernkul C, Ebner A, Promchainant C. Ring Chromosome 20 with Non-Convulsive Status Epilepticus - First 2 Cases Reported of a Rare Epileptic Syndrome in Thailand. *Clin EEG Neurosc* 2005; 36:151-160.
29. May TW, Pfäfflin M. Educational Programs for Patients with Epilepsy – Critical Review. *Disease Management and Health Outcomes* 2005, 13:185-199.
30. Neubauer BA, Waltz S, Grothe M, Hahn A, Tuxhorn I, Sander T, Kurlemann G, Stephani U. Photosensitivity: genetics and clinical significance. *Adv Neurol*. 2005; 95:217-26.
31. Neubauer BA, Hahn A, Doose H, Tuxhorn I. Myoclonic-astatic epilepsy of early childhood--definition, course, nosography, and genetics. *Adv Neurol*. 2005; 95:147-55.
32. Peters CN, Pohlmann-Eden B. Intravenous valproate as an innovative therapy in seizure emergency situations including status epilepticus--experience in 102 adult patients. *Seizure*. 2005,14:164-9.
33. Pohlmann-Eden B. Issues when treating epilepsy in the elderly. *Acta Neurol Scand Suppl*. 2005; 181:40-6.
34. Opp J, Tuxhorn I, May T, Kluger G, Wiemer-Kruel A, Kurlemann G, Gross-Selbeck G, Rating D, Brandl U, Bettendorf U, Hartel C, Korn-Merker E. Levetiracetam in children with refractory epilepsy: A multicenter open label study in Germany. *Seizure* 2005; 14:476-484.
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