

Quality Management in Head Injuries Care:  
Critical Approaches to Health Economics,  
Patient Selection and Acute Treatment

Euroacademy for  
Multidisciplinary Neurotraumatology

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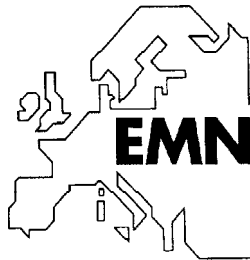
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# Quality Management in Head Injuries Care

Critical Approaches to Health Economics,  
Patient Selection and Acute Treatment



50 figures  
and 21 tables

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## Preface

From February 2<sup>nd</sup> to February 4<sup>th</sup> 1999 the Fourth Congress of the Euroacademia Multidisciplinaria Neurotraumatologica was held in Tenerife in the Canary Islands.

It is common knowledge that while injuries to the central nervous system usually occur in a very short time period, post-traumatic events continue to occur for long periods of time afterwards and more often than not result in neurological deficits.

The accident causing the injury starts a chain of events the different links of which are treated by different specialists.

A "pre-link" in this chain is prevention. Although difficult to demonstrate in figures, there is a strong generalised feeling that the most effective and the most efficient measures are those intended to prevent accidents. Taking into account the enormous numbers of traffic and non-traffic accidents, any preventive action that reduces even in a small percentage the number of these is of utmost practical importance both in saving lives and suffering and from an economics point of view. In this respect, politicians and legislators, industry, insurance companies and both medical and non-medical associations have to interact very closely if we really want to face up to this problem.

The next link has to do with problems related to the transportation and emergency management of the injured. In this critical period, management of the patients is shared by many

medical and paramedical persons. Fast transportation and clear rules about "what-to-do" and "what-not-to-do" have to be accepted, widespread and generally used to minimise further damage to the CNS.

The following stage, the first two weeks in hospital, is also a critical period. Apart from some well established surgical treatments, such as in the case of epidural haematomas, the "medical" management of severe head injuries remains controversial and much more research is needed if we want to change the natural course of events and clearly improve results. Beginning already in this period and lasting several months, sometimes even years, is the rehabilitation and reinsertion period, which is also of the utmost importance both for the patients and their families. This topic will undoubtedly be fully covered in the next meeting in Paris.

The Academy was created with the main aim of being a forum for discussion of all these topics with the co-operation of different specialists and experts. When we look back to past meetings, look at the Tenerife meeting and look forward to the next meeting I believe that the Academy is moving in the right direction towards achieving its aims, covering all the aspects of injuries to the nervous system in a balanced way. What has been discussed in the four main scientific sessions: General Aspects, Acute Period, Fronto-Basal Injuries and Guidelines is reflected in this book. No further com-

ments on these are necessary because the papers speak for themselves. I would, however, stress the concern of the authors about ethical, preventive and organisational problems and of course about treatment in the acute stage, both in the place of the accident and at the hospital. The topic of fronto-basal injuries was well covered from different approaches, thus being a good example of multidisciplinary. The session on guidelines was both critical and fruitful, showing us the long way remaining until common guidelines are accepted and put into practice by the vast majority of our colleagues.

But the Academy is not only a Cartesian scientific forum. It is also a place to cultivate the often-forgotten world of emotions, in the best Daniel Goleman sense. A place to meet friends with common interests, to share new experiences, to savour new food, to enjoy new landscapes or to listen to new melodies, which is

just as important if we want to be really human beings. And all this is better accomplished within a scientific family, particularly a middle-sized family such as the EMN family.

In this meeting we tried hard to cover both aspects of our brain activity. I hope we came close to our aims.

The publishing of this book would not have been possible without the comprehension and co-operation of the authors. Margaret Gillon-Dowens has supervised and corrected the English text and Antonio Suárez and "El Productor" have been responsible for organising the printing. They have at all times shown a high degree of professionalism and co-operation.

The Consejería de Sanidad has financed partially the edition of this book.

We should like to express our sincere thanks to all of them.

Luis Gonzalez-Feria



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## President's Address

Exmo. Sr. Presidente del Gobierno Autónomo de Canarias

Exmo y Magnífico Sr. Rector de la Universidad de La Laguna

Dignísimas autoridades.

Members of the Euroacademia Multidisciplinaria Neurotraumatologica

Colleagues

Friends

Ladies and Gentlemen!

It is a great honour and indeed a pleasure to address you on the occasion of this 4<sup>th</sup> Congress of the EMN.

EMN was born on 1995 thanks to the forward-looking ability, and enthusiasm, of our President Prof. Von Wild. He will surely tell you later about the Multidisciplinarity of this European Academy, an Academy that is dedicated to all the aspects of Neurotrauma.

The First Meeting was held in 1996 in Salzburg, organised by Prof. Diemath, Doctor Honoris Causa of this University of La Laguna; the second one in 1997 in Münster by Prof. Von Wild; the third one in 1998 in Zurich by Prof. Trentz and the 4<sup>th</sup> one, the last of the Millennium, here in Tenerife, in the Canary Islands, the southernmost point of Europe.

Every trauma to the Nervous System may be considered as a long chain of events starting at the moment of the trauma itself and ending often many months or years afterward.

As a matter of fact, the chain should start long

time before with the prevention. The best outcomes are obtained with those accidents that never occurred! Prevention in terms of education of the people, and road and car safety, are of outmost importance.

Then, there is the speed and quality of the first aid on the place of the accident and during the transportation. I think this is a critical moment in which important decisions have to be taken both to provide help and for not doing harm to the injured. Our colleagues from Emergency Medicine are actively involved in this link of the chain.

These aspects, together with ethical and organisational aspects will be covered by distinguished lecturers in the First Session.

What occurs during the first days after the injury is also critical. Very active research is going on for this period of the injury. Once an exclusive field of Neurosurgery, is now shared with Anaesthetists, Intensive Care specialists, Physiologists and specialists of related basic and technical disciplines. These aspects will be exposed and discussed in the Session II of the program, this afternoon.

Included in this session is the very hot point of the role of the Intracranial Pressure versus the Cerebral Perfusion Pressure. We hope we get more clear ideas after the discussion of this topic.

The 3<sup>rd</sup> Session of tomorrow is another example of shared fields in Neurotrauma. The management of fronto-basal injuries, those who

affect the frontal region, the face, the orbita, the nose and the nasal sinuses will be treated in depth by the corresponding specialists.

The 4<sup>th</sup> and last session will be held tomorrow after the working lunch. It will deal with a critical approach to the Guidelines in Neurotrauma. It is also a most important question. In the last decade, we have assisted to an explosive growing of information of all kinds, in this case of medical information. The amount of data that we receive, even in this limited field, is huge. A single person is unable to digest or even to read this information. Moreover the information is not always relevant or reliable.

Some reactions have occurred trying to solve this problems: The "Outcomes movement" in the USA, the Evidence-Based Medicine started by David Sackett in Canada and continued then in Oxford, and the explosion of Guidelines are examples of what I am meaning.

The Guidelines in Neurotrauma and many aspects related to them will be exposed in this Session. This session has been discussed thoroughly with Prof. Von Wild who has brought many ideas on its design and accepted to summarise it. I'm indebted to him for his help in this and many other aspects of the Program. Besides the mentioned lectures there are high

level Free Communications and Posters each of them having enough time for delivery and discussion.

I hope the scientific quality of the program stands for the objectives of our Academia.

To finish with this short words I will express my warmest thanks to our president, Prof. Von Wild, to our Honorary President Prof. Diemath and to the Secretary of the EMN Federico Hernandez-Meyer for the invaluable help they have given to the organisation of the meeting, to Prof. Ginovés and Prof. Marin for the organisation of the symposia from yesterday and to Prof. Ravina for his help with the technical secretariat.

The sponsoring of Volkswagen, Consejería de Sanidad, Cabildo Insular and other sponsors named in the program have made this congress possible and is thankfully acknowledged.

Many thanks also to Cristina Durango and her team from Viaconte for the personal touch and engagement she has given to the program.

And last but not least I will thank all the lecturers, chairmen, and all the attendants that have made an effort to prepare the papers and to come some times from very long distances. I hope you enjoy the Congress.

Prof. L. González-Feria

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## **In Memoriam**

### **Professor Dr. Dr. h.c. mult. Jean Brihaye (1922-1999)**

### **Honorary Member of the EMN**

Prof. Jean Brihaye passed away on 23rd February 1999, just a few days prior to our 4th EMN congress in Tenerife to which he had been invited as our guest of honour.

Jean Brihaye was born in Dinant, Belgium, on 29th March 1922. Until his death he lived in Brussels with his wife, Martine, a professor of ophthalmology. They had three children, all of whom are also medical doctors.

He studied medicine at the Free University of Brussels and graduated with great distinction in 1948. Thereafter, he started his training in Neurosurgery and worked as a resident at the Department of Neurosurgery under Prof. Paul Martin between 1948 and 1954, and later on as chief resident until 1961 when he was appointed director of the Service de Neurochirurgie at the Institut Jules Bordet in Brussels. In 1963 he received a docentship for Neurosurgery and succeeded his teacher as Professor of Neurosurgery. In 1970 he was appointed ordinary professor and retired in 1987. Jean Brihaye started his career as a research worker in the laboratory of Neurophysiology under Prof. Bremer from 1945 until 1948 when he became prosector in anatomy at the Free University. Between 1953 and 1959 he was research worker in the laboratory of pathological anatomy at the university. In acknowledgement of his work, he was awarded national prizes and scholarships with frequent sojourns at various international neurosurgical departments during the years that followed. Prof. Brihaye was president of the Belgian- and French-speaking Societies of Neurosurgery. He has been one of the main architects of Euro-

pean Neurosurgery. Already at the founding meeting of the European Association of Neurosurgical Societies (EANS) in Prague in 1971, Brihaye was elected secretary. On this photograph we see him sitting beside Prof. Johnson at the EANS Congress in Oxford in 1975. In 1979 he became president of the EANS and in 1983 congress president of the 7th European Congress of Neurosurgery in Brussels. He was permanently engaged in the concept to promote the free European interchange of interdisciplinary knowledge, experiences and personal understanding! For that reason, he was elected first honorary president of the EANS in 1985, and later on honorary president of the World Federation of Neurosurgical Societies. He was a highly esteemed lecturer in many European and Euro-Arabic courses. Jean Brihaye had a special interest in neurotraumatology. In 1977, 1979 and 1980 he was congress president of the annual meetings of the Belgium Society for Traffic Medicine, and in 1978 he was nominated past deputy chairman of the Neurotraumatology Committee of the World Federation of Neurosurgical Societies. He published "Some Notes on the History of the Committee on Neurotraumatology (CNT) of the WFNS from 1965 to 1979" (Recent Advances in Neurotraumatology, Springer, 1993). Together with his colleagues and friends Frowein, Lindgren, Loew and Strobandt, he defined the criteria for gradation of post-traumatic disturbances of consciousness.

He was made honorary member and corresponding member of numerous national and international societies and was also a co-founder of the Euro-Asian Academy. The Uni-

versities of Berlin and Thessaloniki awarded him the title of doctor honoris causa. He was a member of the scientific editorial board of the *Acta Neurochirurgica*, *Advances and Technical Standards in Neurosurgery*, *Neurosurgical Review* and *Advances in Neurotraumatology*, where his precision and clarity were always outstanding features of his activities. He published over 250 scientific papers, articles and monographs, more recent ones including, to name but a few: "Philosophical and ethical problems regarding life and death" and "The European spirit and the European Association of Neurosurgical Societies (EANS)" (in *Acta Neurochir. (Wien)* 1989 and 1990).

Prof. Brihaye was a pioneer and one of the most prestigious personalities in modern Neurosurgery, who endeavoured to promote educational programmes and to establish standards. He has proved to be a great European Neurosurgeon. For his life's work, especially with respect to neurotraumatology in Europe, he was named by unanimous vote Honorary Member of the Euroacademy for Multidisciplinary Neurotraumatology during our 3rd EMN congress in Zurich on 28th August 1998. He was awarded this status in recognition of his out-

standing personal and professional qualities as a neurosurgeon. As a convinced European from the very start, he made a major contribution to mutual trust among colleagues of various disciplines and of various nationalities, while promoting and consolidating international contacts in the field of neurotraumatology.

For Prof. Brihaye and all of us alike, the award of the certificate of honorary member to him in Magdeburg on 30th September 1998 was a moving moment during the 1st Joint Meeting of the Neurotraumatology Committee of the WEFNS and the EMN. It was quite in the spirit of his own philosophy - enjoying and appreciating life to the full, while giving less weight to his own health problems, and showing a cheerful, optimistic and forward-looking nature. Prof. Brihaye finally had to cancel his participation in the congress in Tenerife at short notice - today we know how ill he really was. We have lost a world renowned physician and a great man.

The president and members will honour his memory.

Klaus R. H. von Wild

From left to right:  
H. E. Diemath, R. A. Frowein,  
A. Potapov, K. v. Wild,  
S. El-Guindi.  
Sitting: J. Brihaye.  
On occasion of the Joint  
Meeting of the E.M.N. and  
the Neurotraumatology Com-  
mittee of the WHO European  
Meeting, on October, 1st.  
1998, Magdeburg, Germany.

