Swiss Society Celebrates 100 Years

Dr. Claudio L. Bassetti is the president of the SNS, which had a defining role in European neurology during two world wars.

Even before the SNS, Switzerland had made important contributions to the clinical and experimental neurosciences (see box on p. 8). The founding date of the society is considered to be Nov 5 of 1908, when members of an action committee—Robert Bing, Paul Dubois, Paul Louis Ladame, Constant von Monakow, Louis Schnyder, Schumann, Alfred Ullrich, Otto Veraguth, Emil Villiger, and Gustav Wolff—met in the Swiss town of Olten. The SNS was officially constituted on March 13, 1909, in Berne.

The movement was initiated by Robert Bing (1878-1956), who had completed postdoctoral work at Basel University on spinocebellar pathways and opened a neurological outpatient clinic. He had convinced Dubois and von Monakow of the need for a society for the specialty.

The importance of establishing a specialist society for neurology at that time should be seen in the context of the protracted and arduous attempts to disengage neurology from psychiatry and internal medicine.

The giant strides made in neuroanatomy and clinical neurology in the second half of the 19th century fueled calls in Europe and the United States for independence. The turn of the century saw the emergence of autonomous specialist societies in numerous countries. The world’s first specialist neurological society, the American Neurological Association, was founded in 1873 by William A. Hammond in the United States; the Neurological Society of London was founded in 1886 and renamed the Neurological Society of the United Kingdom in 1907. In 1899, Jules Déjérine and a large group of Jean Martin Charcot followers founded the Société de Neurologie de Paris.

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See Swiss • page 8

Window for rTPA Therapy in Stroke Pushed to 4.5 Hours

BY RENEE MATTHEWS
Elsevier Global Medical News

Intravenous recombinant tissue plasminogen activator (t-PA) can be safely administered 3-4.5 hours after acute ischemic stroke and could improve outcomes in some patients, according to a joint advisory statement from the American Heart Association and the American Stroke Association. Current guidelines stipulate that intravenous recombinant tissue plasminogen activator (t-PA) be administered within 3 hours of symptom onset to improve neurological outcomes, but many patients do not receive it because they present for treatment after the 3-hour window. However, Dr. Gregory J. del Zoppo and his coauthors, writing on behalf of the AHA Stroke Council, emphasized that patients who are eligible for t-PA therapy within the 3-hour window should be treated according to the council’s 2007 guidelines. “Delays in evaluation and initiation of therapy should be avoided, because the opportunity for improvement is greater with earlier treatment,” they wrote in an online article (doi:10.1161/STROKEAHA.109.192535).

That said, they noted that rTPA should be used in “eligible patients” 3-4.5 hours after stroke. Eligibility criteria for the extended treatment period would be the same as those for the 3-hour cut-off, except if patients also conformed to one of the following: They were older than age 80, were taking anticoagulants, regardless of their international normalized ratio, had a baseline National Institutes of Health Stroke Scale score greater than 25, or had a history of both stroke and diabetes.

Dr. Joseph P. Broderick, professor and chair of neurology at the University of Cincinnati Neuroscience Institute and Academic Health Center, said

See rTPA • page 12

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neurologists have to assume different personalities from time to time depending on the circumstance: empathetic, fatherly, didactic, and even authoritarian. Not, of course, as authoritarians as neurosurgeons. Surgeons, by their very nature, are different from neurologists and being authoritarian comes naturally. Some neurologists may have to force it. A good example of useful authoritarianism is found on page 13 in this issue of WORLD NEUROLOGY in Robert Daroff’s story about the renowned neurologist, Fred Plum. A strong personality can take charge and move things in the right direction, and Dr. Daroff plum not only changed the outcome of a single event, but in another circumstance changed the course of Dr. Daroff’s life.

I have a personal example of a forceful personality: Raymond D. Adams. A young boy I was taking care of at the Brigham and Women’s Hospital in Boston had frequent jaw opening movements. The movements appeared to be fully involuntary and did not have any urge or set of relief afterward that would have suggested a tic. I had done a series of tests and had a number of therapeutic failures. Dr. Adams was a visiting professor at the time, and I showed him the patient. He looked at the boy in the eye and said sternly, “Don’t do that.” And the boy never did it again. A rapid cure of a likely stereotypy.

Another situation in which there is a role for the authoritarian neurologist is in dealing with conversion disorders. (An article about individualizing one’s approach to a patient with a psychogenic movement disorder is on page 5 of this issue.) One of the frequent requirements on the part of the neurologist is to be authoritarian. Patients often do not want to believe that their disorder has a psychiatric etiology, and they want to continue looking for an organic problem. If the physician seems uncertain, patients might sense that uncertainty and will not accept the diagnosis. They will then continue to doctor-shop to find the théapeutique. (A rapid cure of a likely stereotypy can be helpful.)

I would like to share some good news with you about the situation in Thailand, specifically in Bangkok, where we will hold our World Congress of Neurology Oct. 24-30 this year.

Enhanced security measures have been implemented at all international airports and major hotels to ensure the complete safety and well-being of overseas visitors to Thailand.

The Thai government is likely to announce free insurance for all international visitors between May and the end of November this year. The insurance coverage would mean that in the unlikely event of a political disorder leading to travel or event disruption, all WCN attendees from overseas would be covered for travel disruption, hospitalization, and medical expenses up to 10 days. The government is proposing to underwrite the insurance policy with a budget of U.S. $295 million. As soon as the insurance coverage passes into law, we will inform you by e-mail. I am also honored and pleased to inform you that Thailand’s Princess Maha Chakri Sirindhorn will preside at our opening ceremony on Sunday, Oct. 25.

The WCN 2009 organizing committee has been working hard to create a strong and inclusive program for those who will be attending. To date, we have received more than 1,900 abstracts from researchers and clinicians in more than 80 countries.

With so many preparations in place, it would be very unfortunate if some of our members decided not to come based on misconceptions about Thailand. Here is what the media did not report during the protests last year and early this year: No tourists were injured nor was their safety compromised; the protests were primarily in front of Government House and in isolated locations far from hotels and congress venues; and even during the isolated disruptions, business continued in almost all of the city and is now back to normal.

Today there is a new unity in Thailand. There is a bottom-up commitment from the people and a top-down commitment from the government to ensure that all visitors have a wonderful, trouble-free, experience here. Spanish tennis player, Rafael Nadal, has said he will bring his family for a holiday in Bangkok before joining the WPT Thailand Open tennis championship in Bangkok from Sept. 26 to Oct. 4. So perhaps I could ask you, my fellow neurologists, to also give Thailand a sporting chance!

We are committed to improving the human condition through our work. The development of neurology, especially its expansion in poorer countries, can only be achieved if we unite, like the people of Thailand, to do what is right. So I ask you to show your commitment to the advance- ment and expansion of neurological science and register for the Congress at www.wcn2009bangkok.com. I look forward to greeting you all in Bangkok.

EDITOR IN CHIEF’S COLUMN

Authoritarian Neurology

By Mark Hallett, M.D.

I would like to share some good news with you about the situation in Thailand, specifically in Bangkok, where we will hold our World Congress of Neurology Oct. 24-30 this year.

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The main mission of the World Federation of Neurology today, as I see it, is to reduce the global burden associated with neurological disorders.

According to the Neurology Atlas, which was prepared by the World Health Organization (WHO) and the WFN in 2004, the available resources are insufficient for this purpose. In addition, there are significant disparities across regions and income groups, with low-income countries having extremely scanty resources.

Dr. Margaret Chan, the director-general of the WHO, and Jean Ping, the chair of the Commission of the African Union, have both pointed out that Africa is facing a dramatic public health crisis. What sets Sub-Saharan Africa apart, compared with many parts of the world, is the lack of a neurological infrastructure.

The WHO has estimated that there is an average of 0.03 neurologists per 100,000 individuals in Africa, compared with 4.84 in Europe. At the same time, the burden of neurological disease continues to grow. With a population of about 700 million, around 45% live on less than U.S. $1 a day. The medical infrastructure is poorly developed and has nearly collapsed in some areas. The AIDS epidemic presents an additional socioeconomic problem.

This is the background for the Africa Initiative, a program launched by the WFN in December 2006 to develop neurological services across the continent. The Initiative is a collective term for describing various WFN activities related to that purpose. It includes training new neurologists, establishing educational programs in neurology, supporting national neurological associations, providing and raising money for neurological care in Africa, traveling fellowships, support of public health activities in Sub-Saharan Africa, and collaboration with the WHO, the European Federation of Neurological Societies (EFNS), and the International Brain Research Organization (IBRO).

The major goals of the Initiative are to strengthen existing centers and establish new centers of excellence in neurology. Educational activities are central to the program and include training opportunities for would-be neurologists and those who are already in practice.

At the initiation of the program, Prof. Amadou Gallo Diop in Dakar, Senegal, noted the importance of working with Africa: "Go and ask the people in Africa, what are the realities, what are your needs, how do you want the project to be managed, what kind of support are you waiting for?"

International institutions need to work in partnership with Africa to meet the growing burden of neurological disorders. This is where we had to start. We formed the WFN Africa Committee, a team that includes African neurologists. The Committee sets the direction of the Initiative, moving forward with the support of WFN’s Task and Advisory Force for Neurology in Africa, a group of international experts in neurology.

In addition, the Africa Initiative depends on political will and commitment from local decision makers, which are additional challenges for the WHO and our African colleagues.

How many neurologists are there in Sub-Saharan Africa? Prof. Gallo Diop has prepared a directory—much like that of the American Academy of Neurology Membership Directory and Resource Guide or the EFNS directory—and has put the number at 287 for 2009. The last estimate, from 1996, was 121.

In 2008, the first Ethiopian neurology residents completed their training at Addis Ababa University. That country now has 14 neurologists for a population of about 80 million people. Of the 10 existing residents, half were from outside the capital. Even with inherent uncertainties, the number of neurologists in Africa is increasing, and it is encouraging that new neurologists have now been trained in South Africa for Angola and Namibia.

We also have many more African national neurological associations as WFN members. It is encouraging that Burkina Faso, Cameroon, Democratic Republic of Congo, Guinea, Libya, Nigeria, Senegal, Uganda, and Zambia have become new WFN members through their national associations, in addition to the African countries that have been members for some time.

The long-term goal for the WFN is that all countries on the continent should train their own neurologists. There are medical schools in Africa where there is no neurologist, and new candidates receive no basic clinical training in neurology. We need a minimum of neurologists on the teaching staff. The Federation can do little in national health politics, but again, the WHO is a powerful force for setting the agendas of health planners and ministers of health, and its current spotlight on diseases of the nervous system is a hopeful development. WFN is pointing out the need for neurological expertise at medical schools in Africa.

New specialists tend to stay in the places where they have been trained—such as North America, Europe, Australia, and Japan—so the Federation is working to have training centers on the African continent in those countries that lack training possibilities. For French-speaking countries, there is a generous offer from Service de Neurologie, Hôpital des Spécialités, in Rabat, Morocco, to train specialists in neurology from other African countries. Candidates from English-speaking countries have a similar possible partnership with centers in South Africa and Egypt.

Africa is a huge continent, and there are five regions within Sub-Sahara—North, East, West, Central, and South. There is already a move toward forming African Regional Training Centers of Excellence in Neurology, in which the WFN Africa Committee will have a decisive action.

Many European countries have traditionally had close and bilateral cultural contact with African countries. For example, the EFNS, which has a close collaboration with the WFN, organized the Regional Teaching Course in Dakar, Senegal, in June 2008 as part of its educational program. The trainees came from 18 African countries and had selected the topics for the course, which was a great success. The next EFNS teaching course takes place in Addis Ababa, Ethiopia, in June.

The Initiative also has close contact with the IBRO, which promotes international collaboration and interchange of scientific information on brain research and allows for younger neurologists to visit and learn at other departments. The Federation is also establishing traveling support and fellowships for younger neurologists and has covered the travel costs for a number of African neurologists so that they can attend international congresses.

A problem in many developing countries is the difficulty of integrating neurology into primary health services, as Dr. Robert Lee notes on page 10 in his article about his experiences as a volunteer in Laos. Since medical resources are often centralized in or around big cities, many patients in rural areas still have no access to a neurologist.

In Zambia, Dr. Gretchen Birbeck, of Michigan State University, East Lansing, U.S.A., is organizing a training program that has been run by WFN and the University of Zambia, based at Chaimama College of Health Sciences, near Lusaka. Neurologists from the United States pay regular teaching visits to the college. In Senegal, funding is being provided for a neuro-unit, which is overseen by Prof. Gallo Diop as a way of taking neurology care into rural areas. In Sudan, Dr. Osheik Seidi has recently organized the first clinical neurology skills course.

Although the WHO, WFN, EFNS. Pan African Association of Neurological Sciences, or any other neurology nongovernmental organization have the resources to carry these initiatives alone, much is being obtained by strengthening neurological care within existing health care systems and by international collaboration.
The scientific program for the upcoming World Congress of Neurology is central to the Congress being a success. In this edition of World Neurology, I would like to share some highlights of what we have planned for the Congress, which takes place Oct. 24-30 in Bangkok.

The theme for the scientific program is “Innovation in Neurology,” and we have invited numerous international experts to speak about the innovations and latest research advances in stroke, epilepsy, neurogenetics, neuroimaging, behavioral neurology, multiple sclerosis, dementia, movement disorders, and headache and pain.

We hope these sessions will be a rich source of information for the attendees and will provide them with useful practical guidance in the clinical or research setting.

The organizing committee is proud to announce that Nobbel Laureate, Dr. Stone, a consultant neurologist at Western General Hospital, Edinburgh, Scotland, and an honorary senior lecturer in neurology at the University of Edinburgh, will deliver an address on the most important developments in a session on prion disease.

Dr. johann A. Aari, the President of the World Federation of Neurology, will speak about the urgent need to bring good neurological care to people in developing countries. Dr. Vladimir Hachinski, the First Vice-President and an internationally respected authority in the modern debate on stroke, will discuss the global agenda on stroke. This devastating condition affects a large proportion of the world’s population, particularly in Asia, where access to treatment is limited.

Of course, we will address controversial issues. For example, Peter Sandercock, D.M., and Dr. Louis R. Caplan, will debate whether good old aspirin works very well, Dr. Stone said, because it is untrue to say that you don’t know what is going to go wrong, it helps you to navigate around those reasons.”

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**Calendar of International Events**

**2009**

6th Congress of the European Federation of IASP Chapters (EFIC)  
Sept. 9-12  
Lisbon  
http://www2.kenes.com/efic/Pages/home.aspx

13th Congress of the European Federation of Neurological Societies (EFNS)  
Sept. 12-15  
Florence, Italy  
http://www.kenes.com/efns2009

7th World Stroke Congress  
Sept. 25-28  
Vienna  
http://www.wcnr2010.org/  
Mar. 21-25

3rd International Congress on Gait & Mental Function  
Feb. 26-28  
Washington, D.C., U.S.A.  
http://www2.kenes.com/gait/Pages/home.aspx

134th Annual Meeting of the American Neurological Association  
Oct. 11-14  
Vancouver, Canada  
http://www2.kenes.com/aneuroa.org/2009

14th Congress of the European Federation of Neurological Societies  
Sept. 23-28  
Geneva  
http://www.kenes.com/efns2010/Pages/home.aspx

7th World Stroke Congress  
Oct. 12-16  
Seoul, Korea  
http://www2.kenes.com/Stroke2010/Pages/home.aspx

**MEETING ROUND-UP**

**Hausmanowa-Petrusewicz Honored**

By Alan McComas, M.D.

Brain stimulation is one of the most exciting and scientifically re-
warding areas of neurological re-
search, and it was therefore fitting that it was chosen as the topic for the 70th Interna-
tional Congress for Biocybernetics Seminar held in Warsaw on May 11-13 to honor the noted Polish neurologist, Prof. Irena Hausmanowa-Petrusewicz. The conference was sponsored by the Polish Academy of Sciences through the Institute of Biocybernetics and Biomedical Engineering.

It was a special honor for the atten-
dees that Prof. Hausmanowa-Petruse-
wicz was also one of the chairs, the oth-
er being myself. She began her medical studies in Warsaw and returned to that city after World War II to commence with her neurological training. After receiving a DSc in 1951, she be-
gan her illustrious research career in neuromuscular disorders that saw her become a world authority on spinal muscular atrophy during a career that has spanned almost 65 years. As head of the department of neurology in the Warsaw Academy of Medicine, Prof. Hausmanowa-Petrusewicz trained more than a hundred neurologists and supervised many graduate students. She retired from her university position in 1988, and currently directs the Division of Neuromuscular Diseases of the Pol-
ish Academy of Sciences.

The conference began with a survey of biomagnetism and bionettecity in Tomasz Tyckoe and Zinio Zawistowski's paper by Adri-
antion Upton (Hamilton, Canada). Then followed historical reviews of brain stimulation by Roger Lamon and John Rothwell (both of London), and an analysis of transcranial magnetic stim-
ulation (TMS) effects on cortical cir-
ircuitry by Robert Chen (Toronto). Vahe Amassian (New York) described how, by using TMS to temporally block func-
tion, he and Ivan Bodis-Wollner (New York) had been able to deduce the time spent in different cortical and subcorti-
al areas when a word was read and then quickly spoken.

About half of the remaining papers dealt with TMS, including its application to evaluating motor pathways in spino-
cerebellar ataxia (Maria Rakowicz, Warsaw) and, via the motor cortex, to the treatment of chronic pain (Jean-Pascal Lefaucheur, Rechdi Ahbab, and Daniel Ciampi de Andrade (Créteil, France); Sergei Nikitin, Almaz Kugel, and Ado Artemenko (Moscow) covered using TMS to evaluate cortical excitability in migraine; and I reported unique findings with TMS in a patient with a severe and complex form of this condition.

Maria Rakowicz and Jakub Antczak (Warsaw) reported how they used repet-
itive TMS, as opposed to single-shot, to treat sleep disorders in parkinsonism, and Stefan Rowoyn and Sarah Lisanby (both of New York) discussed using the same modality to treat depression. An-
dreas Lozano (Toronto) and his team ob-
tained impressive results, also for de-
pression, by using implanted electrodes in the anterior cingulate gyrus.

Several Polish groups presented papers on deep brain stimulation. Miroslaw Zabek and Michal Soboty (Warsaw) re-
ported impressive results using bilateral pallidal stimulation in dystonia and sub-
thalamic nucleus stimulation in ad-
vanced parkinsonism. The subthalamic nucleus was also the target in parkin-
sonian patients treated by Tomasz Man-
dat, Henryk Konatra, Pawel Nauman, Tomasz Tylkocki, and Wnoslaw Borzynski (Warsaw), who reported good results with DBS as therapy for dystonia.

Movement disorders were also the subject of a presentation by Mark Hal-
lett (Bethesda, Md., U.S.A.), who had used TMS to investigate the cortical pathophysiology of parkinsonism and focal hand dystonia. In another talk, Prof. Hallett showed how TMS could be used to study cortical plasticity in a va-
riety of neurological disorders. Among other presentations, Dr. Up-
ton reviewed his pioneering results in epilepsy with feedback stimulation, and then with vagal, cerebellar, and deep brain stimulation. Robert Fischell (Bal-
timore, U.S.A.) demonstrated the use of a hand-held magnetic stimulator he had designed and that he said had been used successfully in migraine patients. He also reported on a self-contained device small enough to be implanted in the skull and capable of detecting and ar-
resting incipient seizure activity. Jean Delbeck (Brussels) described a different application of brain stimulation to elec-
trode spatially distinct phosphines by optic nerve stimulation in blind patients.

A notable feature of the meeting was the quality and excellence of the dis-
cussions. And finally, it would be remiss not to mention the superb social pro-
gram our Polish hosts organized for us, including a performance of Verdi's Rigo-
letto at the National Opera House.

Dr. McComas is professor emeritus in the department of medicine and the division of neurology at McMaster University, Hamilton, Canada. He was founding head of the neurology division, where he is still a researcher. He is currently finishing a history of warneurology.

**Travelling Fellow: Learning Excursion to Seattle**

I used my Junior Travelling Fellowship from the World Federation of Neu-
rology to attend the 2009 annual meet-
ing of the American Academy of Neurology in Seattle, U.S.A.

At a colloquium titled “Critic-
tical Thinking for Critical Is-
ues,” I learned much about

managing a neurology prac-
tice, including setting up an
electronic health record sys-
tem. Although it was impos-
bile to cover all of the scientific platform and plenary sessions, I gained new insights, knowledge, and skills from each session I attended.

I also participated in a course on in-
fecions of the nervous system, direct-
ed by Dr. Russell E. Bartt of Rush Uni-
versity Medical Center in Chicago, U.S.A. I now have a better under-

standing of the diagnostic work-up for
central nervous system tuberculosis and of the different manifestations of neurosyphilis, both common and seri-
ous public health issues in Peru.

Dr. Bruce A. Cree, of the University of California, San Francisco, conducted a course in multiple sclerosis, where I learned about new therapies for MS, at what stage they should be started, and how to differentiate demyelinating dis-
 ease subtypes.

The nine poster sessions provided a good opportunity to interact with resi-
dents and fellows from various countries, and I was encouraged to prepare a poster for next year’s meeting in Toronto.

On my return, I did a presentation for my colleagues to share with them what I had learned at the meeting. I hope to be able to travel to other in-
national meetings in the future.

**Prof. Hausmanowa-Petrusewicz, the honoree, and the author, Dr. McComas.**
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Jointly Sponsored by USF Health and the World Federation of Neurology (WFN) Research Group on Parkinsonism and Related Disorders
which was renamed Société Française de Neurologie in 1949. In 1907, the Geschwister Deutscher Nervenarzte and the Società Italiana di Neurologia were founded.

At the first SNS meeting in Berne, the attendees adopted the new society’s goals, which were to promote neurology as a science and maintain close ties between it and related fields such as anatomy, physiology, internal medicine, surgery of the nervous system, psychology, and psychiatry, the cultivation of personal relations between the society’s members; and the promotion and representation of the practical interests of neurology such as the development of neurological training and research.

The members met regularly until World War I broke out in 1914. After a hiatus of 2 years, they met again in Berne. At that meeting, von Monakow and Dubois resigned and were elected honorary presidents. It was the last SNS meeting to have an unfavorable standing of neurology worldwide due to the social and political upheaval caused by the war. After Independence, Expansion

The unfavorable standing of neurology vis-à-vis psychiatry and internal medicine was high on the agenda for the first INC. Representatives from Germany, France, Austria, Czechoslovakia, the Netherlands, and the United States unanimously adopted the following resolution, proposed by the German neurologist Gottfried Foerster: “Neurology is today a fully independent specialty. Unfortunately, however, there are coun-
selors which do not sufficiently recognize this fact. This congress urges the relevant authorities of the countries in question to do their utmost to further the position of neurology.”

At that time in Europe, neurology was an independent compulsory part of medical studies only in Russia, Bulgaria, Estonia, Romania, and Norway. The first INC was regarded as a step toward an- arching neurology as a specialty in its own right, in which Switzerland had played an important and honorable role.

The congress is also regarded as the first in the history of the World Federation of Neurology, which was officially founded in 1957.

SNS meetings were held regularly during World War II, and it was also during this time that Mieczyslaw Minkowski was elected president of the society. The election of a few as president of the SNS was noted as proof of the society’s “in- terchangeability and independence.”

Before and during the war, many prominent German neurologists—Kurt Goldstein, Walther Rieke, and Otto Löwenthal, among others—refuged in Switzerland from persecution in their home country. The Archives played a special role during this time by being probably the only European neurologi-
cal journal to continue publishing articles in German by a range of foreigners, particularly Jewish, authors.

From 1940 onward, the SNS met twice yearly at meetings that were often staged jointly with foreign neurological soci-
eties. The first such joint meeting took place in July 1950 in conjunction with the Italian Neurological Society in Lugano, Switzerland, and the two societies held subsequent joint meetings in 1975 in Sre-
sa, Italy, and 1940 in Sion, Switzerland.

The SNS held other joint meetings with societies from Britain, Belgium, the Netherlands, Germany, France, Austria, Poland, and Sweden. The main themes of the meetings reflect developments in the specialty over succeeding decades.

Merging the Academic and Clinical

In 1908, there were only two neurolog-
ical outpatient clinics run on a private ba-
sis throughout Switzerland, one in Zurich and one in Basel, but no inpatient facility. Most internists and psychiatrists, including Auguste-Henri Forel in Zurich, were opponents of an independent sta-
tus for neurology. As a result, in most Swiss university clinics, inpatient care of neurological patients and the teaching of neurology were in the hands of internists and psychiatrists until the mid-
20th century, in time increasingly assist-
ent by consultant neurologists.

The first independent neurological in-
patient facility (12 general and 2 private beds) and thus neurological clinic in Switzerland, opened in Zurich in 1952 under Minkowski. Other neurological inpatient services that were still a part of medical departments opened in Basel in 1951 (Genève), in 1953, and in Berne in 1958. Non-university affili-
ated neurological clinics with inpatient facilities were established in St. Gallen in 1972, Aarau in 1974, and Lugano in 1989. In a broader context, the first inpatient neurological clinic worldwide was opened in the United Kingdom in 1859 at the National Hospital for the Para-
lyzed and Epileptic in Queen’s Square, London, and in France in 1862 at the Salpêtrière in Paris.

Today, there are five university hospi-
tals in Switzerland with independent neurological departments (Geneva, Lau-
sanne, Berne, Basel, and Zurich), three neurological departments at major re-
regional hospitals (Aarau, St. Gallen, Lugano), and four neurological wards within the departments of internal med-
icine at regional hospitals (Lucerne, Robert Bing convinced his peers of the need to form a neurological society.

Laying the Foundations

E ven before the SNS was founded in 1908, Swiss physicians and scien-
tists had made important contribu-
tions to the clinical and experimental neurosciences. Among these noted pioneers were:

► Johann Jakob Wepfer (1620-1695), a physician and anatomist, who wrote a classic work on stroke titled “Apoplexia” (1658). He was the first to describe nerve cell and nerve tractus, methodological, and clinical studies.

► Albrecht von Haller (1708-1777), a biologist and the pioneer of bioelectricity theory who introduced the terms stimulus, irritability, sensibility, and contractility. Daniel Bernoulli (1700-1782) and Charles-Gaspar de la Rive (1770-1834) also published important works in experimental and per-

► Samuel Auguste André David Tissot (1722-1797), who wrote a three-volume neurological handbook titled, “Traité des nerfs et de leurs maladies” (1778-1780), on pain and migraine, and a book, “Traité de l’Épilepsie” (1778) that contains cli-
nical observations on epilepsy that are still valid today.

► Wilhelm His (1831-1904) an illus-
trious neuroanatomist, who was the first to describe nerve cell and nerve fiber as independent units.

► Constantin von Monakow (1831-
1904) graduated from the University of Berne in 1853 and studied at the University of Zürich. He currently serves as a resident in neurology at the University of Zürich. Dr. Waldvogel works in private practice at the Hirlanden Klinik St. Anna, Lucerne, and is a consultant in movement disorders at the department of neurology at the University of Zurich. Dr. Waldvogel is a resident in neurology at the University of Zurich. Dr. Bassetti is director of the neurological outpatient clinic and vice-chairman of neurology at the University Hospital in Zürich. Dr. Valerio is the scientific director of the European Sleep Research Society, and is the scientific director of the European Neurological Society Meetings.

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tions to the clinical and experimental neurosciences. Among these noted pioneers were:

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constantin von monakow is considered a pioneer in neurology in switzerland.
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Since 1999, I have been spending a month or 2 each year working in Laos as a volunteer with a partner-ship program involving the University of Calgary (Canada), the University of Heath Sciences in Vientiane, the capital city of Laos, and the Lao ministry of health. The main objective of the program has been to produce physicians who have the specific knowledge and skills to deal with the health problems encountered in rural Laos.

Initially, the project focused on a major revision and modernization of the medical school curriculum. The school, which has been in existence for more than 40 years, had a curriculum modeled on European medical schools from the mid-20th century.

Teaching consisted almost entirely of lectures and was organized according to traditional disciplines, with little integration between the basic biomedical sciences and clinical medicine. Moreover, there was little emphasis on the country’s most common medical problems. The new curriculum has been in place for 6 years. It uses an interdisciplinary, systems-oriented approach, with the emphasis on clinical problem solving. The implementation has not been an easy task. Resources are very limited, class size has been increasing steadily, and the teachers are overworked and underpaid.

Attempts to introduce small-group learning have met with limited success, and only a small percentage can read or speak English, but most Lao students can read Thai and a limited selection of Thai language textbooks is available.

Although very little of what I have been doing in Laos involves wearing my neurology hat, I have worked with Lao teachers to develop the neuroscience components of the new curriculum and helped prepare them to teach medical students clinical skills, including the neurological examination. In a country that did not have a single neurologist until 2008, it was inevitable that I would be asked to see some patients, and I have had the opportunity to see patients with some unusual and fascinating neurological problems.

Over the past 5 years, I have also been working with colleagues from Calgary and Laos to develop a postgraduate training program in family medicine, a specialty that had been unknown in Laos where traditionally, doctors were sent to work in rural districts after completing medical school. In this way, a new medical specialty is being created specifically to prepare doctors for work in the rural districts of Laos. The second year of training is spent in the provinces, of which 6 months is a community medicine experience.

During that time, the residents go in small groups of four or five to live in a rural community where they conduct a detailed survey of every household to identify the major health problems in the community and then work with the villagers to prioritize the problems and plan specific interventions.

I have had the opportunity to travel to neighboring Thailand for an MRI. During one visit, I saw four young people over a 2-week period with paraphagia, presumably due to a stroke, although it is always difficult to confirm the diagnosis.

Epilepsy is well recognized and, particularly in the rural areas, is often untreated—epileptic seizures are not available in Laos, but she would be able to get more acetylcysteine in the remote district hospital. I have not been able to obtain any follow-up, but hopefully she still has her pruned buffalo and is not incapacitated by headaches or concerns about what might be causing them.
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Fred Plum is a neurological icon who is known for his many contributions to our specialty. He was articulate and forceful—and authoritarian when he deemed it necessary. He was also brave and fearless. While he was chief of neurology at the University of Washington in Seattle caring for polio patients, he had himself curarized, catheterized, and placed in an iron lung so that he could experience their treatment firsthand. And, while studying cerebral circulation with the Kety-Schmidt technique, which involved catheterization of a carotid artery and jugular vein, he had that procedure as well for the same reason.

An encounter I shared with Plum at the University of California, San Francisco (UCSF) in the late 1960s, was a defining moment in what became a lifelong friendship and professional alliance between us. I finished my neurology residency at Yale University in New Haven, Conn., U.S.A., in 1965 and then spent 2 years of obligation military service with the U.S. Army. In academic year 1967–1968, I was a neuro-ophthalmology fellow under Dr. William F. Hoyt at UCSF. Sometime in early 1968, Dr. Robert A. Fishman, chair of neurology at UCSF, received a call from Plum, who was en route to San Francisco to see Dr. William F. Hoyt at UCSF. Sometime in early 1968, Dr. Robert A. Fishman, chair of neurology at UCSF, received a call from Plum, who was en route to San Francisco to see Dr. William F. Hoyt at UCSF.

Plum had swiftly and effectively redi-rected our attention to the patient. I was astounded by how bravely and graciously he had taken control during that tension-filled moment. Several years later, when I was on the faculty of the University of Miami, Plum spent a few days with us as visiting professor. When I drove him back to the airport, I asked if he remembered the Black Panther incident. He recalled it vividly, and we discussed it at length. We subsequently became close friends, and, in addition, he became a strong active supporter of my career.

The frequency of the primary efficacy outcome—a score of 0 or 1 on the modified Rankin Scale score 90 days after rTPA treatment—was significantly high-er in rTPA patients (52.4%) than in placebo patients (42.5%). In addition, there was a significant difference between the two groups, although it was slightly higher in the placebo group. Dr. del Zoppo said he had received prophylactic antibiotic therapy for deep vein thrombosis within 24 hours of receiving rTPA.

The recommendation was largely based on data published in 2008 from ECASS III. In that multicenter, prospective, random-ized, placebo-controlled trial, 418 patients were enrolled to best medical treatment with rTPA between 3 and 4.5 hours after stroke, and 401 to best medical treatment plus placebo. Exclusionary criteria were the same as the guidelines, as was ancillary care, except that patients received prophylactic antibiotic therapy for deep vein thrombosis within 24 hours of receiving rTPA.

The treatment group received 0.9 mg/kg of alteplase to a maximum of 90 mg. Symptomatic intracranial he-morrhage, a common com-plication after thrombolysis, was diagnosed in 10 (2.4%) of the rTPA patients and 1 (0.2%) of the patients on placebo. This incidence was consistent with that in other trials, the authors wrote.

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AEDs Linked to Bone Loss, Fracture Risk

**Oral Fingolimod Bests IFNb-1a in MS Study**

**BY SUSAN LONDON**
Elsevier Global Medical News

**SEATTLE** — Treatment of relapsing-remitting multiple sclerosis with orally administered fingolimod results in a significantly lower annualized relapse rate than interferon-betat (IFN-beta) 1a, based on the results of a phase III trial. A significantly lower percentage of patients who received fingolimod at either of two dosages did not experience relapse in the international, randomized, double-blind, TRANSFORMS trial. However, safety concerns regarding two deaths from demyelinated herpes zoster and herpes zoster encephalitis that occurred in the higher-dose fingolimod group will be addressed in a related ongoing study, said Dr. Jeffrey Cohen, a neurologist at the Cleveland Clinic.

Fingolimod, also known as FY720, has two mechanisms of action: it promotes retention of lymphocytes in lymph nodes (away from the central nervous system), and it modulates sphingosine-1-phosphate (SIP) receptors in neural cells.

The researchers randomly assigned 431 patients to oral fingolimod 0.5 mg once daily, 425 to oral fingolimod 1.25 mg once daily, and 345 to interferon-beta-1a (IFN-beta-1a) 30 mcg once weekly. The patients were 36 years old on average, and two-thirds were women, Dr. Cohen reported at the annual meeting of the American Academy of Neurology. They had had MS for about 7.5 years on average, and their Expanded Disability Status Scale score was 2.2. Nearly 48% had not previously been treated with disease-modifying agents. The annualized relapse rate at 12 months—the trial’s primary endpoint—was 0.13 in the IFN-beta-1a group, 0.16 in the lower-dose fingolimod group, and 0.20 in the higher-dose group. This corresponded to a significant 52% and 38% reduction with fingolimod at the lower and higher doses, respectively. The findings were essentially the same in the first-year results, and in analyses restricted to treatment-naïve and treatment-experienced patients.

The percentage of patients who did not experience any relapses was significantly greater in the lower-dose (83%) and higher-dose (88%) fingolimod groups than with IFN-beta-1a (68%). On magnetic resonance imaging, compared with their counterparts treated with IFNb-1a, patients treated with the lower and higher doses of fingolimod had a smaller mean number of new or newly enlarged T2 lesions (1.3 and 1.4 vs. 2.1 and gadolinium positive T1 lesions 0.23 and 0.14 vs. 0.51).

The percentage of patients who had a confirmed progression of disability did not differ between groups (8% with IFN-beta-1a and 8% with the fingolimod). The study drug discontinuation due to adverse events was more common with the higher dose of fingolimod (10%) than with the lower dose (6%) and with IFN-beta-1a (4%). The only deaths were the two in the higher-dose group. An ongoing 2-year trial in which fingolimod is being compared with placebo “will give us a much better indication of the benefit-risk profile,” said Dr. Cohen, who disclosed that he has received personal compensation for activities with Novartis (make of fingolimod) and Biogen Idec (maker of fingolimod). Novartis Pharma AG in Basel, Switzerland, funded the study.

None of the patients treated with IFN-beta-1a developed brain tumors, although the block—known effects of the first dose of fingolimod—but 1% and 4% of those treated with lower and higher-dose fingolimod did. Localized skin cancers occurred in 0.4% of the IFNb-1a group, 1.4% of the lower-dose group, and 0.3% of the higher-dose group. Study drug discontinuation due to adverse events was more common with the higher dose of fingolimod (10%) than with the lower dose (6%) and with IFNb-1a (4%). The only deaths were the two in the higher-dose group. An ongoing 2-year trial in which fingolimod is being compared with placebo “will give us a much better indication of the benefit-risk profile,” said Dr. Cohen, who disclosed that he has received personal compensation for activities with Novartis (make of fingolimod) and Biogen Idec (maker of fingolimod). Novartis Pharma AG in Basel, Switzerland, funded the study. IFNb-1a in the TRANSFORMS trial and the current first-line disease modifying drugs interferon beta and glatiramer acetate have shown treatment results consistent with the first pivotal trials and favorable long-term outcomes. There are still unmet needs in MS. Adherence to injections is decreasing over time, and the need for greater efficacy is clearly present, Dr. Eva Havrdova of the department of neurology at Charles University, Prague, said, in an interview.

“There are several oral drugs in the pipeline,” fingolimod being one, from which a lot is expected. The safety profile and possible prevention of side-effects must be clearly communicated to both patients and neurologists, with the need for more education in the field of neuroimmunology.

“Further safety data from long-term monitoring of patients from all these trials will be decisive for accepting fingolimod, and possibly other oral drugs—as a first line option in MS,” said Dr. Havrdová, who is a primary investigator in a placebo-controlled study of fingolimod and has received educational grants and speaking fees from Biogen Idec, Bayer, Teva, and Serono.

Jeff Evans contributed to this article.
Neurological Complications in Lung Transplantation

BY ALEX TSELIS, M.D., Ph.D.

Organ transplantation is a well-established treatment for several otherwise fatal diseases but it is very invasive, both surgically and physiologically, and can result in a number of complications. Transplants have been performed for more than a half century, and some of us might recall the international excitement when the first human heart transplant was performed in December 1967. By today’s standards, those early procedures were primitive, and the clinical management crude. The prominence of neurological complications was evident from early on, though with more procedures being done for more diseases, the availability of more intensive and selective immunosuppression, and improved perinoperative support, the spectrum of complications has changed over the years. This is especially true for the neurological complications of transplants. After these procedures, the nervous system is easily perturbed in a number of ways, which could include the effects of the surgical procedure, concomitant diseases, neurotoxicity of medications, opportunistic infections from the immunosuppression, and so on. As the science of transplantation evolves, so do the complications, and updated reports on them remain relevant and valuable. We look to the large transplant centers for the data to define the current spectrum of neurological complications in transplant patients, and a recent report from Dr. Sasa A. Zivkovic of the University of Pittsburgh Medical Center, U.S.A., and his colleagues, gives a practical and helpful overview of the neurological problems faced by lung transplant patients (J. Neurol. Sci. 2009;280:90-3).

Neurological problems occurred in 68% of 132 consecutive lung allograft patients at the center. Most involved impairment of consciousness (21%), neuromuscular problems (23%), and headaches (20%). Of note was that only 8% of the patients had seizures and 7% had cerebrovascular complications. Most of the encephalopathic complications were toxic-metabolic—often a result of the medications, especially tacrolimus—and hypoxia. Neurological complications were also surprisingly common, occurring in 21% of patients, and had many causes. Diabetic and medication-associated polyneuropathies were most common, followed by mononeuropathies, and a few plexopathies. Some myopathies were noted, mostly because of critical illness myopathy.

Neurotoxic effects of immunosuppressive medications were more common, occurring in 17% of patients, than were opportunistic infections—both systemic and in the nervous system—which occurred in 11% of the patients.

The authors emphasized the multifactorial nature of many of these problems, which can be caused by several factors. The paper gives a clear and detailed catalog of the authors’ extensive experience and emphasizes the changes that have occurred over the years.

The first author, Dr. Zivkovic, is from Zagreb, Croatia, where he went to medical school. He did his neurology residency and a fellowship in clinical neurophysiologist at UPMC. During his training in neuromuscular disease, he evaluated transplant recipients and developed an interest in the complexities of their neurological problems. He continues to work with transplant patients and is proceeding in several projects, including search on other peripheral neuropathies and amyotrophic lateral sclerosis.

Dr. Tselis is associate professor of neurology at Wayne State University in Detroit, U.S.A. He is the book review editor for the Journal of the Neurological Sciences.

PD Textbook Gets Update

PARKINSONISM & RELATED DISORDERS
edited by Erik Wolters, Teus Van Laar, and Henk Berendse (Amsterdam: VU University Press, 2008)

The contributors to this textbook include neurologists, neuroscientists, neurosurgeons, neuropsychologists, and psychiatrists, with a broad and variety of expertise in the field of neurological movement disorders that ensures an informative and balanced final product.

The four main sections of the book—basic information, Parkinsonism, related disorders, and diagnostic procedures—deal with etiology, pathophysiology, pathology, and the signs and symptoms of the various disorders.

The chapters on diagnostic procedures include practical information on genetics, clinical examination, clinimetrics, immunology, and clinical neurophysiology as well as differential diagnostic problems, and the information is enhanced by the inclusion of in-depth discussions of pharmacotherapy and neurosurgical strategies.

The book comes with a CD-rom with 47 video clips of different movement disorders. The beauty of these video clips is that they allow copying and editing on a computer. The videos are also easily inserted into PowerPoint for presentation. Unfortunately, some of the video clips are soundless or in Dutch, which makes it difficult for those who can’t speak Dutch to understand the significant points.

The journal of the Neurological Sciences enjoyed another year of dramatic growth, with a 20% increase in submissions. This growth is reflected in the overwhelmingly positive responses we received from the Author Feedback Programme published in March 2008. More than 86% of the authors who were surveyed indicated that they were satisfied overall with the journal. When asked if they would recommend JNS, a typical response was, “The journal has an international editorial board, a good impact factor, and reputation. Furthermore, the journal services are good.”

The journal’s broad scope includes studies in neuromuscular diseases, demyelination, dementia, infections, stroke and cerebral circulation, degenerative diseases, neoplasms, and metabolism in both clinical neurology and the basic sciences.

The vitality of the journal is reflected in both the evolving profile of the contributors, 24% of whom are under the age of 35 years, and the changing demographics of the contributors and reviewers.

The five leading countries in submissions remain the United States, Japan, China, South Korea, and Italy but the significant increases in submissions from regions including Africa, Egypt, Iran, Jordan, Lebanon, Palestine, Qatar, the Russian Federation, Saudi Arabia, and Sri Lanka indicate a trend in the journal’s expanding global presence and impact.

An increasing number of these readers access JNS online through SciVerse Direct, where the average number of monthly downloads for the journal has exceeded 15,000.

Special issues are a regular feature of JNS and are designed and conceptualized to highlight the latest developments and research on a theme. This year, the journal’s focus was multiple sclerosis. The journal has an international editorial board, a typical response was, “The journal has an international editorial board, a good impact factor, and reputation. Furthermore, the journal services are good.”

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An increasing number of these readers access JNS online through SciVerse Direct, where the average number of monthly downloads for the journal has exceeded 15,000. Special issues are a regular feature of JNS and are designed and conceptualized to highlight the latest developments and research on a theme. This year, the journal’s focus was multiple sclerosis.

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Plasmid VEGF Shows Promise for Diabetic Neuropathy

Plasmid vascular endothelial growth factor gene transfer by intramuscular injection improved neuropathic symptoms in patients with diabetic neuropathy after 24 weeks, based on results of a randomized trial of 59 adults.

There are many causes of diabetic neuropathy, but experimental models have shown that injecting plasmid (nonvector) vascular endothelial growth factor (VEGF) into the muscle adjacent to nerve trunks has a positive effect on large peripheral nerves by improving blood flow, clinical function, and electrophysiological function, and by restoring microcirculation.

In this study, Dr. Allan Ropper of Brigham and Women’s Hospital, Boston, and colleagues conducted a blinded, randomized trial to determine whether VEGF gene transfer would improve not only symptoms, but also clinical and nerve conduction measures.

A total of 39 patients received three sets of injections in the muscles, 24 patients received plasmid VEGF every 2 weeks, and 11 patients received a placebo. These participants were free of cancer and active retinopathy, which are at risk for VEGF therapy.

Both types of injections were given at eight standardized sites adjacent to the sciatic, tibial, and peroneal nerves on one leg. The researchers measured patients’ sensory, motor, and reflex scores, as well as nerve conduction velocities and quantitative sensory characteristics, at baseline and at 4, 24, and 52 weeks in both the treated and untreated legs.

At 24 weeks—the designated time for primary outcome measurement—the symptom scores were significantly improved in the treatment group, compared with the placebo group. The average change in symptom score was −1.23 in the VEGF patients, compared with −0.89 in the placebo patients, and this difference was significant after controlling for any change in the untreated legs in both groups.

In addition, the visual analog pain scores were significantly better in the treatment group, compared with the placebo group (−1.47 vs. −0.47). Nerve conduction studies, quantitative sensory testing, and measures of sensory and motor scores improved in the treatment group vs. the placebo group, but the difference was not statistically significant.

After 52 weeks, 21 serious adverse events were reported in the treatment group and 2 were reported in the placebo group. “Most of the vascular events were in the untreated leg,” Dr. Ropper said in an interview before the study was presented at the annual meeting of the American Academy of Neurology.

Adverse events included congestive heart failure, severe asthma, calf claudiation, and diabetic foot infections.

The study was limited by its small size due to the rigid participation criteria, Dr. Ropper said. The expectation of improvement was low for most of the patients in this study, he explained. “The next trial should enter patients with less severe axonal neuropathy, so there is at least a prospect of change.”

A larger trial with a single dose or with one agent (VEGF-1 or VEGF-2) is needed before this procedure might be considered a mainstream treatment for diabetic polyneuropathy, added Dr. Ropper, who had no financial conflicts to disclose.

Many clinical trials for the treatment of diabetic neuropathy are currently in progress, each with diverse application rationales, study end points, and evaluation methods. Given the complexity of this disease, however, most of the trials have shown benefits only on symptoms such as neuropathic pain—the most common concern for patients with diabetic neuropathy—without affecting the underlying electrophysiological parameters. This suggests that disease-modification therapy toward diabetic neuropathy still remains unsuccessful.

Dr. Chaor-Jong Hu of the department of neurology at Taipei Medical University Hospital and Shuang Ho Hospital, Taipei, Taiwan, said in an interview, “Rescue of microcirculation in peripheral nerves may play a pivotal role in treating diabetic neuropathy. However, the treatment may be initiated too long after the time at which nerve or neuronal damage might be reversible. So VEGF gene therapy, expected to be a disease-modifying treatment, should be given to patients at an earlier stage during the disease progression, leaving symptomatic therapies as the second-line treatment, said Dr. Hu.

Jeff Evans contributed to this article.
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