

WORLD NEUROLOGY

THE OFFICIAL NEWSLETTER OF THE WORLD FEDERATION OF NEUROLOGY

MYALGIC ENCEPHALOMYELITIS/CHRONIC FATIGUE SYNDROME:

A New Name & Diagnostic Criteria

In March 2015, a report from the Institute of Medicine (IOM) was published in the *Journal of the American Medical Association* to redefine the illness known as Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS).

Over the years, clinicians and researchers have developed different diagnostic criteria for ME and CFS; however, the two terms describe conditions with similar symptoms. In the World Health Organization's "International Classification of Diseases," 10th Revision, both ME and CFS are coded the same and classified as disorders of the nervous system (ICD G93.3). The term "benign myalgic encephalomyelitis" was first used in the 1950s in London when describing an outbreak in patients who experienced a variety of symptoms, including "malaise, tender



Maggie McNulty

lymph nodes, sore throat, pain and signs of encephalomyelitis."

The cause was never found, but it appeared infectious in etiology, and the term "benign myalgic encephalomyelitis" was used to reflect "the absent mortality, the severe muscular pains, the evidence of parenchymal damage to the nervous system and the presumed inflammatory nature of the disorder." Then in 1970, two psychiatrists reviewed reports of 15 of these outbreaks and concluded that the outbreaks "were psychosocial phenomena" caused by mass hysteria or altered medical perception of the community.

However, the idea that the condition was psychogenic in origin was refuted by Dr. Melvin Ramsay. In 1986, he was the first to publish diagnostic criteria for ME and, at this point, the term "benign" was dropped as the disease often was severely disabling for those patients afflicted. Around the same time, in the mid-1980s, there were two outbreaks of an illness that resembled mononucleosis characterized by "chronic or recurrent debilitating fatigue and various combinations of other symptoms, including sore throat, lymph node pain and

tenderness, headache, myalgia and arthralgias." This illness was at first linked to the Epstein-Barr virus (EBV); however, further research ruled out this as the cause, and, in 1988, the term "chronic fatigue syndrome" was coined by the Centers for Disease Control and Prevention (CDC).

ME/CFS is characterized by symptoms of profound fatigue, cognitive dysfunction, sleep abnormalities, autonomic manifestations, pain and other symptoms that are worsened by any type of exertion. The syndrome affects women more than men with an average age of onset of 33 years with a wide range of distribution ranging from 10 to 77 years old.

ME/CFS is a common disorder that is currently estimated to affect 836,000 to 2.5 million Americans. Despite the prevalence of this disorder, less than one-third of medical school curricula and only 40 percent of medical textbooks include information regarding this syndrome. This likely contributes to delays in diagnosis time for these patients (e.g., 29 percent of patients report symptoms for >5 years prior

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WFN at AAN Congress 2015

BY RAAD SHAKIR

The AAN is the largest single neurological association in the World Federation. The relationship goes back to the inception of the WFN. The WFN would not have existed without the generous assistance of \$126,000 from the National Institutes of Health. This was only possible through the efforts of Dr. Pearce Bailey Jr., the first secretary general of the WFN and the second president of the AAN.

The AAN meeting this year was in Washington, DC, attended by 13,000 with

a significant percentage of international delegates. There were 2,678 abstracts. The depth and breadth of the topics and the availability of teaching material is impressive.

Annual meetings of the leaderships of both organizations have become a tradition to discuss bilateral relations and international affairs. This year, there were several issues on the agenda, including joint support for African neurologists and full support for the burgeoning Pan American Federation of Neurological Societies bringing together Latin American neurologists.

This organization is to encompass all neurological associations in Latin America and represents the Latin American region as one of six WFN regional organizations.

There was discussion on the creation of a Ted Munsat Award for Training and Education. The late Dr. Munsat was a past president of the AAN



WFN/AAN leadership meeting 67th Annual AAN Congress, Washington, DC, 2015. From left to right, Gallo Diop, Ralph Sacco, Terence Cascino, William Carroll, Tim Pedley, Catherine Rydell, Raad Shakir, Riadh Gouider, Steve Lewis and Wolfgang Grisold.

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FROM THE EDITOR-IN-CHIEF

Durban 2015

Two remarkable meetings took place in March in Durban, South Africa. On March 25, the National Institutes of Health (NIH) (U.S.) convened a workshop on implementation science, that is, how to use research findings, whether epidemiologic, basic science, clinical or economic studies, to influence public policy. In a previous editorial, I referred to this as “translational research,” the concept of moving from research data to utilization.



DONALD H. SILBERBERG

Investigators supported by the Fogarty International Center (FIC), NIH, presented the results of studies that are beginning to achieve this, in Burkina Faso, Democratic Republic of the Congo (DRC), Nigeria, South Africa, Uganda and Zambia. Discussion centered on both impediments in achieving implementation, and on what has worked in some locales. All of the presenters and discussants agreed that further efforts are needed to develop approaches that will use research findings to improve neurologic and psychiatric health

in every country, and the need to provide this information to all investigators in low- and middle- income countries. Interested investigators should watch for future notices from the FIC.

The NIH workshop was followed by the 12th International Conference of the Society of Neuroscientists of Africa (SONA). In addition to basic and clinical neuroscience presentations by invited speakers from Italy, South Africa, Spain, Sweden, the U.K. and the U.S., investigators from all regions of Africa presented 157 posters and platform talks. At least half of these dealt with clinically relevant topics, ranging from studies of trypanosomiasis in the DRC, to pain following traumatic spinal cord injury in Zimbabwe. The abstracts can be viewed at www.sona2015.com. The next meeting, in 2017, will be held in Uganda. This meeting is clearly designed to include clinical neurologists as well as neuroscientists. •

The Diamond and the Rose

BY RICHARD PEATFIELD

During the last 40 years, the world of headache has been blessed with two remarkable men: Dr. Seymour Diamond and Dr. Frank Clifford Rose. They have both recently published autobiographies. Rose’s autobiography is, of course, posthumous following his death in 2012, while Seymour, just the elder, is still enjoying his retirement at the age of 89.



Richard Peatfield

Although living and working in different environments on different continents, Diamond and Rose have striking similarities over and above their lively personalities. They were born within 16 months of one another of Jewish immigrant stock. Rose’s parents settled in the East End of London after getting married and having two children in Romania. Rose was the youngest of seven surviving siblings.

Diamond’s parents, by contrast, had arrived in Chicago as children from Slovakia and from the Ukraine. He was the youngest of their four children. Both had that combination of inherent talent and industry that enabled them to move out of their original backgrounds.

I think it is fair to say that Rose’s path was advantaged by the grammar school and the university system of his time in Britain, while Diamond grew up in the challenging environment of wartime America. Never is this more clear than in their early clinical training. Rose was able to do all of his jobs within London, whereas Diamond tells the tale of his in-laws driving him, his new wife and all of

their possessions from Chicago to Arkansas and then to Ohio every year or so.

Both spent the bulk of their careers as practicing physicians with interests in headache, though Diamond was never a board-certified neurologist as he had been accredited in family medicine and had not done a residency program in neurology.

Both set up dedicated migraine clinics. Rose’s clinic is dedicated to Princess Margaret, while Diamond’s bears his own name. Both wrote and edited a large numbers of books and conference proceedings. Both were superb administrators and used their talents in a wider field. Rose was the more international, playing a major role in the evolution of the International Headache Society and serving as secretary treasurer general of the World Federation of Neurology.

Diamond, in contrast, devoted much of his energy to the inpatient and outpatient facility he established in Chicago and developed a nationwide reputation as a physician “who cared.” He was one of the first to try tricyclic antidepressants in headache patients and was the leading light in many of the trials of drugs that are currently part of the every physician’s drug armamentarium.

Diamond played a major role in the evolution of the American Association for the Study of Headache and was its chief executive for many years. His autobiography makes it clear that his relationship with the neurological establishment was often fraught. Nevertheless, it is a tribute to his diplomatic skills that the American Headache Society (as it is now called) covers such a broad spectrum of practitioners from neurologists and pediatricians to physiotherapists, psychologists and other colleagues. He also initiated the influential patients’ own National Migraine (now Headache) Foundation.

The Headache Godfather: The Story of Dr. Seymour Diamond and How He Revolutionized the Treatment of Headaches
 By Seymour Diamond and Charlie Morey
 Skyhorse Publishing, Inc., New York
 2015 ISBN-10: 1629145386 \$24.95

Autobiography: By Any Other Name
 By Clifford Rose
 Privately printed 2014 [Copies may be available for £12 + p&p. Expressions of interest should be made to r.peatfield@imperial.ac.uk]

Rose, in contrast, was more of a neurological polymath, with interests not only in headache but also in motor neurone disease, Parkinson’s disease and stroke. He was perhaps more dependent on his junior colleagues on both the clinical and academic fronts. Diamond’s concentration on one symptom attracted devoted patients from all over the continent. Both were renowned for their approachability.

Diamond’s autobiography was written in conjunction with a medical journalist, in the third person in somewhat more popular style, with many fascinating personal details, including his prowess at Bridge and his innocent dealings with the local mafia. Rose wrote his in the first person, and his voice and characteristic energy come through.

They were both devoted to their wives and children. Diamond and his wife, Elaine, had three girls, of whom one now runs the eponymous Clinic in Chicago after his retirement. Rose and his wife, Angela, had three boys, all established in careers away from medicine.

Both autobiographies give fascinating insights into medical training during and immediately after World War II, as well as into the evolution of the clinical and academic world of headache on each side of the Atlantic. Both are fitting tributes to two outstanding men. •

PRESIDENT'S COLUMN

WHO Global Dementia Strategy: Implications for Neurologists

In 2006, "Neurological Disorders: Public Health Challenges" was published by the World Health Organization (WHO), with WFN participation¹. It is clearly stated, "there is ample evidence that pinpoints neurological disorders as one of the greatest threats to public health." Dementia was well covered as a major challenge. Rita Levi-Montalcini, Nobel Laureate 1986, wrote the foreword to the book. She stated "the burden of neurological disorders is reaching a significant proportion of countries with a growing percentage of the population over 65 years old."



RAAD
SHAKIR

Neurologists across the world deal with various disorders of the brain with vast numbers of individuals affected. For example, every year 15 million people worldwide suffer a stroke, nearly 6 million die and 5 million are left permanently disabled. Every six seconds a stroke kills someone. Stroke claims more than twice as many lives as AIDS. In fact, stroke continues to be responsible for more deaths annually than those attributed to AIDS, tuberculosis and malaria combined. The burden of stroke now disproportionately affects individuals living in resource-poor countries. Epilepsy affects 50 million people across the world, and seven out of 10 receive no medication. Parkinson's disease affects 6.3 million; MS affects 2.5 mil-

lion; and, in addition, neurologists deal with monumental numbers of those complaining of headaches and all other disorders affecting the nervous system. Moreover, the WFN has always applied the principle that there is no health without brain health.

The first WHO ministerial conference on Global Action Against Dementia was held March 16-17, 2015, in WHO headquarters in Geneva. More than 400 participants attended. The conference was hosted by the WHO and organized by the UK government and the OECD. This is an important milestone in the global action on dementia. One would have thought that neurology would be one of the cornerstones of the global action both in the early detection, confirming a devastating diagnosis, participating in research into diseases of the brain causing dementia and being part of the ambition to have a cure by 2025. It is for all these reasons the World Federation of Neurology representing more than 45,000 neurologists worldwide was delighted to attend and express its views.

Neurological disorders, whether affecting the central or peripheral nervous system, are the major cause of death and disability. The aim of the WFN is to have more training for medical graduates in the field of neurology so that the best possible service can be provided to those afflicted with neurological diseases. However, the inclusion of neurological diseases in the UN NCD declaration of 2011 is only marginal (Item 13bis) in spite of the significance and the devastation caused by diseases of the nervous system². In the WHO departmental structure, neurology falls under the department of mental health and substance abuse, which seems no longer applicable.

The creation of a WHO department of brain health, in order to encompass all forms of dementia, neurodegenerative noncommunicable diseases and the whole of mental health and neurology/neurosurgery is long overdue.

The World Alzheimer Report 2013³ rightly emphasized the complexity and difficulties encountered. Perhaps one missing element in its overarching, supporting and research recommendations is that governments should do their best to have specialists in the field of brain diseases involved early in the diagnosis and management of dementia. Moreover, those neurologists with scientific interests should be the ones working in translational clinical research aiming at discovering a disease modifying therapy or ultimately a cure. Just as we cannot underestimate the role of clinicians in this endeavor, that of clinicians has to be equally important. Advances in early diagnosis and

clinical trials have been galloping over the past few years⁴.

As for the recent Ministerial Conference on Dementia, U.K. Secretary of State for Health Jeremy Hunt gave an eloquent speech on combating dementia. (See Figure 1.) This is most appropriate as the U.K. was the sponsor of the G8 Declaration on Dementia in December 2013⁵. The establishment of the World Dementia Council and the appointment of the World Dementia Envoy followed.

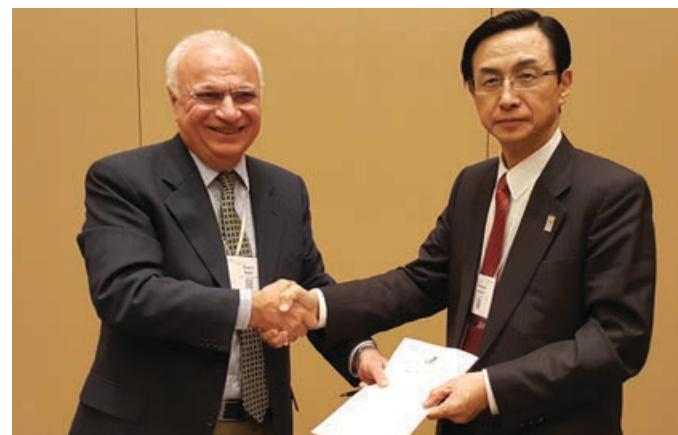
The two-day deliberations of the topic were most informative, and many expressed the view that a "pandemic" is staring the world in the face. The fact that the numbers will triple from the current 47.5 million by 2050⁶ is frightening, and work needs to be very quick and productive. However, the difficulties of producing new drugs in the field of neurodegenerative disorders were emphasized and the complexities of various causes of dementia are clear to see. The only plausible way forward for research is to combine work on neurodegenerative disorders and look at all possible causes and their pathologies.

The G8 global action against dementia is committed to the "ambition to identify a cure or a disease modifying therapy for dementia by 2025." The WHO ministerial conference was an extension and a report on the endeavor so far. The WHO and its partner organizations are now moving to confront this most threatening of neurological diseases.

The role of neurologists alongside psychiatrists collaborating with primary care physicians cannot be underestimated. This way, we will create a closely knit group working with patient organizations and governments to try and achieve the G8 ambition to deal with the complexity of all the causes of dementia. Training more young medical graduates in the field of nervous system diseases will create subspecialists who can make an accurate diagnosis and follow the proper pathway in recruiting individuals affected by various neurodegen-



From left to right, Prof. William Carroll, WFN first vice president; Prof. Wolfgang Grisold, WFN secretary-treasurer general; Dr. Raad Shakir, WFN president; Prof. Hidehiro Mizusawa, president of the WCN 2017 Congress; Ryosuke Takahashi, president of the Japanese Neurological Society; and Yoshikawa Ugawa, chairman of the Local Scientific Program Committee for the WCN 2017.



WFN President Dr. Raad Shakir (left) exchanges the signed contract for WCN 2017 with Prof. Hidehiro Mizusawa.

erative conditions in the correct trials if we are going to achieve the ambition expressed in the G8 declaration. Time and direction are of the essence. •

Shakir is the president of the World Federation of Neurology.

References

1. Neurological Disorders: Public Health Challenges. WHO 2006.
2. United Nations General Assembly. 2011 High-level Meeting on Prevention and Control of Non-communicable Diseases. <http://www.un.org/en/ga/ncdmeeting2011/> (accessed April 24, 2015)
3. World Alzheimer Report 2013. Journey of Caring. An Analysis of Long-term Care for Dementia. Published by Alzheimer's Disease International (ADI) London. September 2013.
4. Bateman R. Alzheimer's Disease and Other Dementia; Advances in 2014. Lancet Neurology; 2015; 14:4-5.
5. UK Department of Health. G8 Dementia Summit Declaration. <https://www.gov.uk/government/publications/g8-dementia-summit-agreements/g8-dementia-summit-declaration>.
6. The Lancet Neurology. WHO Takes up the Baton on Dementia. Lancet Neurol 2015; 14:455. Editorial.



Figure 1. Jeremy Hunt MP, United Kingdom, Secretary of State for Health (right) and Raad Shakir President WFN

Cognitive Impairment and Parkinson's Disease Dementia, Second Edition

MURAT EMRE, ED
OXFORD UNIVERSITY PRESS, 2015

The medical book publishing industry is challenged nowadays to turn out products quickly and efficiently, lest the rapid dissemination of today's scientific advances through the Internet render the content of a book out of date on arrival. The second edition of Murat Emre's "Cognitive Impairment and Dementia in Parkinson's Disease" has avoided this fate, in large part because of the organizational skill of the editor and his recruitment of the same authoritative thought leaders that contributed to the first edition in 2010. Hence, this continuity of authorship has allowed for a seamless update of the topics covered before.

The co-authors of each of the 22 well-written chapters have handled their assignments with balanced attention to recent discoveries and to the potential for practical application. There is also a healthy regard for the concept that all roads of investigation ultimately lead back to the patient, whose struggle to cope with the twin burdens of progressive motor and cognitive impairment in Parkinson's disease (PD) has not been significantly helped by a true breakthrough in treatment since the introduction of levodopa in the 1960s. The failure to develop more effective symptomatic or game-changing, disease-modifying therapies has been one of the great disappointments of modern-day clinical research despite years of valiant effort.

As Dr. Emre observes in his elegant introduction, cognitive impairment as an essential feature of PD was mostly unrecognized by James Parkinson in his essay on the Shaking Palsy (1817) because lack of treatment doomed its victims to a severe physical disability and a shortened lifespan. The stark reality of cognitive

impairment in advanced PD became apparent only after the remarkable benefit of levodopa enabled people with PD to function better physically and thereby live longer. Well-designed, long-term cohort studies in the early part of this century revealed not only the shocking news that 70-80 percent of people with PD would develop dementia as they aged and progressed, but also that subtle cognitive abnormalities, particularly in executive function, were prevalent in a sizeable minority at early stages of the disease.

This book thoughtfully reviews the important developments in clinical and basic research of the last two decades, and it highlights new and refined information that has emerged in the five years since the first edition was published. References are up to date as of 2013 with a sprinkling of 2014, the year of publication. Early chapters on epidemiology, natural clinical history and neuropsychological assessment are comprehensive and succinct. The differential diagnosis of dementia in the setting of parkinsonism can be difficult, but the neuropsychological profile of cognitive dysfunction in PD, showing the typical executive, visuo-spatial, attention and memory deficits of PD sets it apart generally from Alzheimer's disease, wherein disturbances of memory and language are the classic hallmark findings.

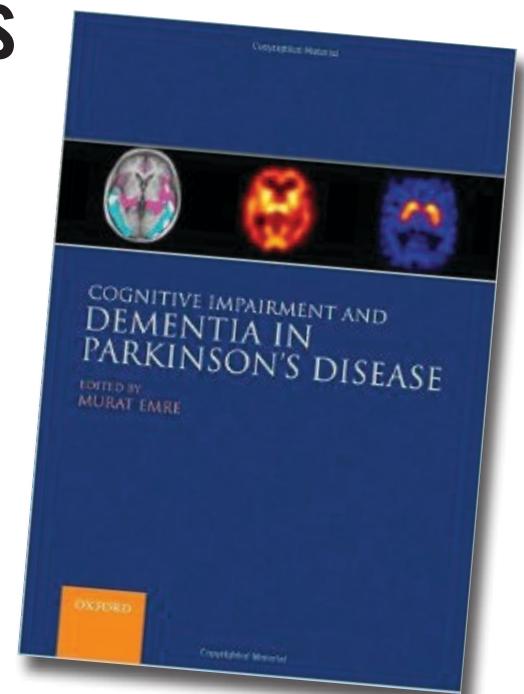
The histopathology of PD is the focus of several chapters, which emphasize the near unanimity of opinion that misfolded alpha-synuclein is the key molecular abnormality and the main component of the signature intracytoplasmic inclusion Lewy body. The clinical and pathological continuum of Parkinson's disease dementia (PDD) and dementia with Lewy bodies (DLB) is also effectively explained, including elements of the debate over the

contribution of the plaques and tangles of Alzheimer disease (AD) as a minority component of PDD/DLB pathology. Current evidence suggests (without being close to consensus) that DLB, which is defined arbitrarily as dementia occurring within a year of the onset of parkinsonism, has a pathological substrate of alpha-synuclein and Alzheimer plaque (sans tangles), whereas the substrate for PDD — dementia beginning more than a year after the onset of parkinsonism — is more likely to be alpha-synuclein alone. Another chapter covers the neurochemistry of PD and PDD and the central relevance of the well-known deficiencies of dopamine and acetylcholine as they relate to the evolution of dementia.

The ferment in biomarker research — a relatively new phenomenon with great promise for predicting cognitive outcomes in the preclinical and early clinical stages of PD and for identifying subgroups for targeting in clinical trials of new therapies — is included in several chapters. Also since the first edition, official criteria for Parkinson dementia and mild cognitive impairment (MCI) in PD have been established under the auspices of the International Parkinson and Movement Disorder Society, using the model of the Petersen criteria for pre-Alzheimer MCI. Several chapters on recent findings in brain imaging are well executed, although it could be argued that all imaging should have been condensed into a single chapter. One of the hottest areas of research in the basic science of PD is the rapidly expanding field of Parkinson genetics. The chapter on the genetic basis of PDD is excellent and comprehensive.

Ian McKeith and Murat Emre join forces in the penultimate chapter to discuss management of PDD and DLB, and the result is a masterful presentation of a humane message about the time-honored clinical fundamentals of taking a good history, listening empathically and caring long term for the patient and family.

Finally, the closing brief chapter by John Hardy is a sobering statement of how far we still must go before truly meaningful treatment comes into view. He acknowledges the substantial "incremental" progress in molecular biology and genetics of the last decade. The identification of numerous potentially causative somatic and mitochondrial genetic loci in some patients clears some of the



fog around pathogenesis, although these advances apply only to a small fraction of the much larger universe of patients with PD, for whom genetic markers are nowhere to be found. Moreover, it is far from clear which pathogenetic pathways are influenced by alterations in the genome or, perhaps more important, how the growing number of these changes interact to produce disease and which ones are the most critical in the pathogenetic cascade. In short, the goal of a cure is "still beyond the near horizon."

"Cognitive Impairment and Dementia in Parkinson's Disease" is a solid achievement. The authors have created an informative and useful compendium of the universally accepted wisdom as well as the latest more controversial advances in the field. It is easy for an armchair reviewer to find fault with even the best publications, but there are a few minor shortcomings here. First, the list of contributors should have included the specific disciplines of each person in addition to their institutional affiliations. Second, some of the references at the end of each chapter were duplicated or unrelated to the citations in the text. Third, redundancy across chapters was generally appropriate for emphasis of the most important concepts and facts, but more careful editing could have minimized useless redundancy. Fourth, the importance of impaired olfaction in preclinical PD and the voluminous body of research devoted to it was all but ignored; olfaction received only a brief paragraph in one of the early chapters and no attention was paid in the chapter on biomarkers. And fifth, there was no mention of the so-called "prion hypothesis" that has been invoked in the last several years to explain how alpha-synuclein pathology spreads rostro-caudally throughout the brain as the disease progresses and leads to the development of dementia. These small quibbles hardly detract from the many assets of this fine contribution to the growing shelf of literature on one of the most pressing problems in clinical neurology. •



Meeting of Headache and Pain Management

BY HAYRUNNISA BOLAY, ALAN RAPOPORT, AKSEL SIVA, NAJIB KISSANI, AMADOU GALLO, DIOP

The first Turkish-African Meeting of Headache and Pain Management was held May 2-6 in Istanbul, Turkey. It was convened by the Turkish Headache Society and organized by Prof. Hayrunnisa Bolay from Gazi University, Ankara. There

was major support from the Turkish International Cooperation Agency (TIKA). It was held under the auspices of and with support from the International Headache Society (IHS). In



Gallo Diop

attendance was Alan Rapoport, president; three other board members of the IHS (Hayrunnisa Bolay, Peter Goadsby, Andy Charles); Dimos Mitsikostas, president of the European Headache Federation; Zaza Katsarava, vice president of the European Headache Federation; and Aksel Siva, president of Turkish Headache Society. This scientific neuro-event was attended by almost 70 senior and young neurologists from different African countries (Botsawana, Djibouti, Egypt, Ethiopia, Kenya, Morocco, Nigeria, Senegal, Sudan), Germany, Georgia, Greece, Denmark, U.K., U.S., and the hosting country Turkey, represented by headache experts from universities of Istanbul and of Gazi (Ankara). The key highlights were:

- To promote the cooperation and interactions among headache specialists from IHS, headache societies across African countries and Turkey
- Aim to educate young leaders and train clinicians to alleviate pain and increase quality of life of people with headache disorders in Pan Africa
- To learn more about the current condi-



From left to right, Aksel Siva, Mustafa, Dr. Ozge, Pr Ndiaye; Alan Rapoport, Hayrunnisa Bolay, Dr. Uluduz and Gallo Diop.

tions and requirements for headache in Africa

- To increase skills for and knowledge about headache and pain management
- Leading international faculty to teach about headache and pain
- Particularly useful for young neurologists, algologists, senior residents and other medical doctors who care for patients with headache and painful conditions
- Membership to IHS will be provided to participants without charge if they are from a country listed as one of the 100 poorest countries in the world.

The meeting covered a wide range of important topics related to headache and pain medicine. The first part of the event ran on the website and involved the theoretical reading of basic papers and live international webinars. The second part of the meeting brought together more than a dozen world-renowned headache and pain experts to teach and mentor the junior physicians from Africa and Turkey. Teaching lectures, interactive

sessions, case-based learning and practical interventional courses took place in Istanbul during four days. Professors assistant, professors and residents from African universities took part in lectures, cases presentations and discussions.

Day 1

Day 1 was the opening with welcome statements from Bolay, trustee of IHS and convener of the meeting; Prof. Najib Kissani, neurologists at the of University of Marakesh, Morocco; Rapoport, president of International Headache Society from the University of California, Los Angeles; and Siva, president of Turkish Headache Society, from Istanbul. It was followed by lectures.

Yohannes W. Woldeamanuel, trained in neurology in Ethiopia (2009-2013), is an IHS scholarship awardee and post-doctoral fellow at the Stanford Headache Program. He reported on "Burden of Headache in Africa and Emerging Challenges." Woldeamanuel emphasized that headache was the 13th cause of

YLDs in 2010; migraine represents 15 percent of Africa's DALYs. In Africa, it is noted a great number of secondary-type headaches from infectious disorders (WHO, 2011, Atlas of Headache Disorders and Resources in the World; Woldeamanuel, 2014, J. Neur. Sci., 342). He suggested collecting more population data with incidence and prevalence rates, prospective research to increase awareness about pain and headache, and more research about traditional management.

Prof. Kissani reported on "Headache in Morocco." Even if the ratio is better than many African



Attendees of the first Turkish African Headache and Pain Meeting with IHS staff.

Mark Your Calendars 2015

1st Congress of the European Academy of Neurology
June 20-23
Berlin

Joint 11th Biennial Convention of the ASEAN Neurological Association and 16th ASEAN Congress of Neurological Surgery
July 30-31
Singapore

31st International Epilepsy Congress
Sept. 5-9
Istanbul

American Neurological Association 140th Annual Meeting 2015
Sept. 27-29
Chicago

Congress of the European Committee for Treatment and Research in Multiple Sclerosis 2015
Oct. 7-10
Barcelona, Spain

XXII World Congress of Neurology
Oct. 31-Nov. 5
Santiago, Chile

5th International Conference on Neurology & Epidemiology
Nov. 18-20
Griffith University, Gold Coast, Australia

WFN ELECTION 2015: NOMINATING COMMITTEE RECOMMENDATIONS

The Nominating Committee of the World Federation of Neurology, having invited nominations for one treasurer and one elected trustee post, both to be filled with effect from the 2015 Annual General Meeting (Council of Delegates) on Nov. 1, recommends the following candidates to the membership:

Recommended candidates:

Treasurer:

- Prof. Richard Stark (Australia)
- Prof. Andreas Steck (Switzerland)

Elected Trustee:

- Prof. Morris Freedman (Canada)
- Prof. Steven Lewis (USA)

It is open to anyone to make additional nominations by

- Obtaining the supporting signatures of five or more authorized delegates
- Submitting the name(s) of the individual(s) in question to the Secretary-Treasurer General, c/o the London Secretariat office, to arrive at least 30 days prior to the date of the Council of Delegates meeting.

Neurosonology in Egypt

BY PROF. FOAD ABD-ALLAH

The Cairo University Neurosonology Unit (CUNU) is a distinguishable, highly specialized center for sonographic assessment of the nervous system. The unit was founded in 2006, and, since then, it has become a hub for large volume sonology service provision, education and research activities. Team members in the unit are highly trained and practice the state-of-the-art of neurosonology.



Foad Abd-Allah

The unit was established following the post-doctoral scientific visiting fellowships of Dr. Foad Abd-Allah, founder of the unit, first with Prof. David Russell at Rikshospitalet, the National Teaching Hospital in Oslo, Norway, and then with Prof. Manfred Kaps at Gissen University,

Germany, during the 2004-2005 academic year. Thereafter, the department procured a color duplex ultrasound machine. Coupled with the interest of senior doctors in the department and the enthusiasm of young neurologists, training in neurosonology was started. Currently, the unit possesses four pieces of equipment, with well-trained operators working within two lab facilities. Most of the members of CUNU are certified by the Intersociety Commission for Certification in Neurosonology, the Neurosonology Research Group of the World Federation of Neurology (NSRG) and European Society of Neurosonology and Cerebral Hemodynamic.

CUNU provides high-quality, high-impact services in a timely fashion for patients with neurological disorders. More than 1,200 cases are examined every year by its team. The mainstay of the service is the neurovascular assessment of stroke patients to tackle stenocclusive disease of cerebral vasculature. Additionally, follow up of patients with



subarachnoid hemorrhage for vasospasm as well as cerebral circulatory arrest in brain death is another important task. Recently, nerve muscle neurosonology was introduced. The diagnostic possibilities of neuro-ultrasound have not yet been exhausted. Anyone interested in neurosonology is offered a comprehensive initiation into this fascinating diagnostic tool.

The neurosonology team members created a training program, titled "The Neurosonology Professional Diploma." The course is designed in five comprehensive modules to be presented annually from October to June, and provides candidates with basic theory and practical skills in commonly applied neurosonology techniques. The NSRG

of the World Federation of Neurology reviewed the program and certified it as an outstanding high standard teaching program. Many candidates already expressed their interest in it. Full details of the program can be found at www.medicine.cu.edu.eg/cunu/index.html.

The Neurosonology Annual Workshop was launched in 2008, in collaboration with Prof. Manfred Kaps from Giessen, Germany, and since then it has become a landmark event in the annual neurology conference in Egypt. Every year, a new topic is presented in this conference with more than 100 attendees; some of whom have received training in the CUNU lab and eventually have gone on to establish

see **NEUROSONOLOGY**, page 11

Editor's Update and Selected Articles from the *Journal of the Neurological Sciences (JNS)*

BY JOHN D. ENGLAND, MD

On April 21, 2015, the Editorial Board of the *Journal of the Neurological*

Sciences (JNS) met in Washington, DC. I'm pleased to report that by all measures *JNS* has shown steady and healthy growth.

The number of manuscripts that are submitted to the journal has continued to increase over the past several years. Specifically, 1,718 manuscripts were submitted and reviewed in 2014, compared to 1,520 in 2013. Additionally, the number of full text article downloads via Science Direct increased from 764,832 in 2013 to 807,404 in 2014.

By all current indicators, these numbers are expected to increase for 2015. Because *JNS* is the official journal of the World Federation of Neurology (WFN), the Editorial Board welcomes submissions from around the world. As a measure of this aim, *JNS* receives articles from authors and institutions around the globe. The majority of submissions come from Asia, Western Europe and



John D. England

North America (U.S. and Canada).

As a reflection of the continuing globalization of science and technology, the journal has seen a significant increase in the number of papers from Eastern Europe, the Middle East and Africa. Although a new impact factor (IF) for the journal will not be calculated until later in 2015, we are hopeful that these positive trends will also result in an increase in the IF over the next few years.

In our ongoing attempt to enhance accessibility of *JNS* articles to WFN members, we have selected two more "free-access" articles, which are profiled in this issue of *World Neurology*. These articles are paired and are presented together.

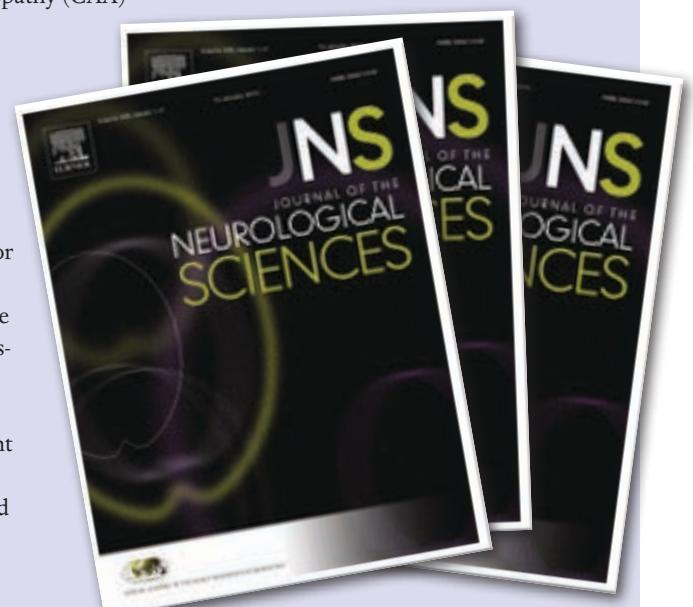
1) Apostolos Safouris, et al, provide an interesting and instructive case description of an older man with probable Alzheimer's disease who presented with an episode of acute motor aphasia, which was initially diagnosed as a transient ischemic attack (TIA). Although an initial brain CT-scan did not demonstrate an acute lesion, a gradient-echo MRI performed within the first 48 hours revealed a left cortical parietal microbleed (MB). The authors argue persuasively that the MB was probably responsible for the patient's symptoms and was likely associated with cerebral amyloid angiopathy

(CAA). The authors suggest that patients with known or probable CAA (especially those with Alzheimer's disease) not undergo thrombolysis or anticoagulation for a possible ischemic stroke until amyloid-associated MB is excluded. Safouris A, Gazagnes M-D, Triantafyllou N, Tsvigoulis G. Cerebral amyloid angiopathy-associated microbleed mimicking transient ischemic attack. *J Neurol Sci* 2015;351:198-199.

2) In an accompanying editorial, Andreas Charidimou provides a succinct and useful perspective on cerebral amyloid disease. He points out that sporadic cerebral amyloid angiopathy (CAA) is a common neuropathological finding in the aging brain, and it is especially notable in the brains of individuals with Alzheimer's disease. CAA is an important risk factor for spontaneous lobar intracerebral hemorrhage and anticoagulant — associated brain hemorrhage. Dr. Charidimou points out that transient focal neurological spells, sometimes called "amyloid spells," are

well described and probably more common than is generally appreciated. Since these transient episodes can be misdiagnosed as TIAs, he emphasizes the importance of obtaining a brain MRI to exclude a microbleed in the investigation of older individuals with otherwise unexplained transient neurological episodes. Charidimou A. Elderly and forgetful with transient neurological spells: A story of two amyloids? *J Neurol Sci* 2015;351:1-2. •

Dr. England is the editor-in-chief of the *Journal of the Neurological Sciences*.



Epilepsy. Theme for World Brain Day 2015

BY MOHAMMAD WASAY MD, FRCP, FAAN, AND GRISOLD WOLFGANG, MD

Epilepsy is one of the most common neurological diseases in world with an estimated more than 50 million people affected around world. It affects people of all ages. Almost 50 percent have a cause for these epileptic seizures, including stroke, brain trauma, infections, tumors or brain damage during or before delivery of a baby. It may cause three to six times increase risk of premature death. More than 80 percent live in developing countries, and almost 70 percent do not receive any treatment. Stigma and discrimination are important aspects of this treatable disease. More than 70 percent of people with epilepsy can lead a normal life with treatment. These were the facts and figures that inspired the World Federation of Neurology to select "epilepsy" as a theme for 2015 World Brain Day campaign.

2015 is a landmark year in history of epilepsy. The World Health Assembly adopted the resolution, titled "Global burden of epilepsy and the need for coordinated actions at the country level to address its health, social and public knowledge implications." This resolution is a call for action from member countries and stakeholders.

The World Brain Day campaign will be jointly organized by WFN, the International League Against Epilepsy (ILAE) and the International Bureau of Epilepsy (IBE). Both of these organizations have been working for decades to improve public awareness, doctors' training and advocacy. We urge our delegate societies to

work with local ILAE and IBE chapters to organize World Brain Day 2015 activities. Our campaign will focus on prevention of epilepsy.

The Public Awareness and Advocacy Committee is in the process of preparing publicity material for this campaign. The material will include logos, banner ads for websites, handbills, brochures, posters, billboards and presentations. There will be a press conference in collaboration with the World Health Organization. A multilingual press release will be prepared and circulated to delegate societies.

The most important target of this campaign is the public. We need to create simple messages in local languages and promote them via electronic, social media, billboards, banner and events. The next important area of intervention is health care authorities and policymakers. Our campaign should result in policy and priority shifts at the national or local level. We have to plan targeted activities to facilitate this outcome. Another important area of intervention is awareness and training of general practitioners, nurses and paramedical staff. Involvement of media is a must. Celebrities, scientists and sports figures with epilepsy could be a part of this advocacy campaign.

World Brain Day 2014 was a great success due to participation of large number of delegate national societies organizing activities and media events. Hundreds of newspaper items and media posts were created and shared via electronic, print and

social media.

World Brain Day 2015 will be extremely productive in spreading the message all around globe, not only to affected people, doctors and health care authorities but to those normal, healthy people who are at risk for developing epilepsy. We can defeat epilepsy by awareness and effective treatment. •

Wasay is the chair of the Public Awareness and Advocacy Committee.

University of Lisbon in collaboration with WHO, is currently accepting applications for the academic year 2015-2017. The main scope of the Master Degree in International Mental Health Policy and Services (MHPS) is to build capacity of mental health professionals to lead and contribute to conceiving, formulating, implementing and evaluating:

- national mental health policy
- national mental health legislation
- mental health services and care delivery

The course will start Monday, Oct. 12, 2015, with a two-week residential session, at the Faculdade de Ciências Médicas campus in Lisbon. A second two-week residential session will take place April 4 in Lisbon. Between the two residential sessions, the students will participate in e-learning teaching activities under the orientation of supervisors.

The second year of the course will be dedicated to the development of a project and the elaboration of the dissertation, under the orientation of a supervisor. Additional information about the course can be found at the following site: www.fcm.unl.pt •



World Brain Day

International Epilepsy Day - It's Seizures, Not Cases

22nd July 2015



International Coursework

INTERNATIONAL DIPLOMA IN MENTAL HEALTH, HUMAN RIGHTS AND LAW

The International Diploma on Mental Health, Human Rights and Law is currently accepting applications for the academic year 2015-16. The diploma, now in its eighth year, is a collaboration between the World Health Organization and the ILS Law College in Pune, India. The course builds the capacity of students to advocate for human rights and to influence national legislative and policy and service reform in line with the U.N. Convention on the Rights of Persons with Disabilities and other key international human rights standards. It is a one-year diploma and includes two residential sessions and distance learning.

Students to date comprise health and mental health professionals, lawyers, mental health service users/survivors, government officials, social workers, human rights defenders, families and carers. The course is taught by a faculty of renowned

international experts in the area.

More information about the diploma is also available at www.cmhlp.org/diploma.

The prospectus and application forms are available at <http://cmhlp.org/applications-and-fees/download-prospectus-and-forms>.

In addition, the Open Society Institute (OSI) will provide funding for two students from Central and Eastern Europe/former Soviet Union to participate in the course. These are fully funded fellowships and include tuition fees, travel, accommodations and living expenses for the residential sessions. If you are interested and qualify for this grant, please state on your application that you wish to be considered for the OSI fellowships.

INTERNATIONAL MASTER IN MENTAL HEALTH POLICY AND SERVICES

The International Master in Mental Health Policy and Services, an international course promoted by the NOVA

World Federation of Neurology Teaching Centers

The World Federation of Neurology (WFN) has established Teaching Centers for training young neurologists in Africa. The first Teaching Center opened at the Department of Neurology of Mohamed V. Souissi University in Rabat in 2014, and now also the Department of Neurology of Cairo University will participate.

The WFN will offer a three-year training course in Rabat (French speaking), and a one-year training course in Cairo (English speaking), starting in September 2015. The WFN will cover travel costs, tuition and a monthly allowance for living expenses for this period.

Persons from Africa can apply for a teaching course in either Rabat or Cairo, according to the conditions and criteria specified on the WFN website.

To apply, applicants must submit their CV, a supporting statement indicating which training program they wish to apply for and a letter of recommendation from the dean of their department by Friday, July 3, 2015, by email to enkanagu@kenes.com. The applications will be accepted from Friday, May 15, 2015, until Friday, July 3, 2015. A commission of the WFN will select the most suitable candidates. For more information on the training programs, the selection criteria and the process, visit the WFN website: www.wfneurology.org •

The Hansen-Neisser Controversy Concerning the Discovery of *Mycobacterium Leprae*

BY DOUGLAS J. LANSKA, MD, MS, MSPH, FAAN
VA MEDICAL CENTER, GREAT LAKES VA
HEALTHCARE SYSTEM, TOMAH, WISCONSIN

In the late 1860s, on the basis of his clinical and anatomical studies, Norwegian physician Gerhard Armauer Hansen (1841-1912) concluded preliminarily that leprosy was a distinct disease with a specific cause, and not simply a degenerative condition with multiple potential etiologies.



Douglas J. Lanska

(See Figures 1 and 2.) His subsequent epidemiological studies in Norway found no association between the occurrence of leprosy in various districts and general mortality rates, provided evidence that leprosy was contagious rather than hereditary, and demonstrated that isolation of cases produced a decline in incidence.

In 1873, Hansen discovered rod-

shaped bodies — *Mycobacterium leprae*, sometimes called Hansen's bacillus — in leprosy nodules, although he did not clearly identify them as bacteria. He described these in a report to the Medical Society of Christiania (now Oslo) and in his main treatise in 1874, with a shorter English version in 1875:

“While leprosy may be ... indirectly proved to be a specific disease by demonstrating its contagiousness, it would, of course, be the best if a direct proof could be given. I will briefly mention what seems to indicate, that such proof is, perhaps, attainable. There are to be found in every leprosy tubercle extirpated from a living individual — and I have examined a great number of them — small staff-like bodies, much resembling bacteria, lying within the cells; not in all, but in many of them. Though unable to discover any difference between these bodies and true bacteria, I will not venture to declare them to be actually identical. Further, while it seems evident that these low forms of organic life [i.e., bacteria]

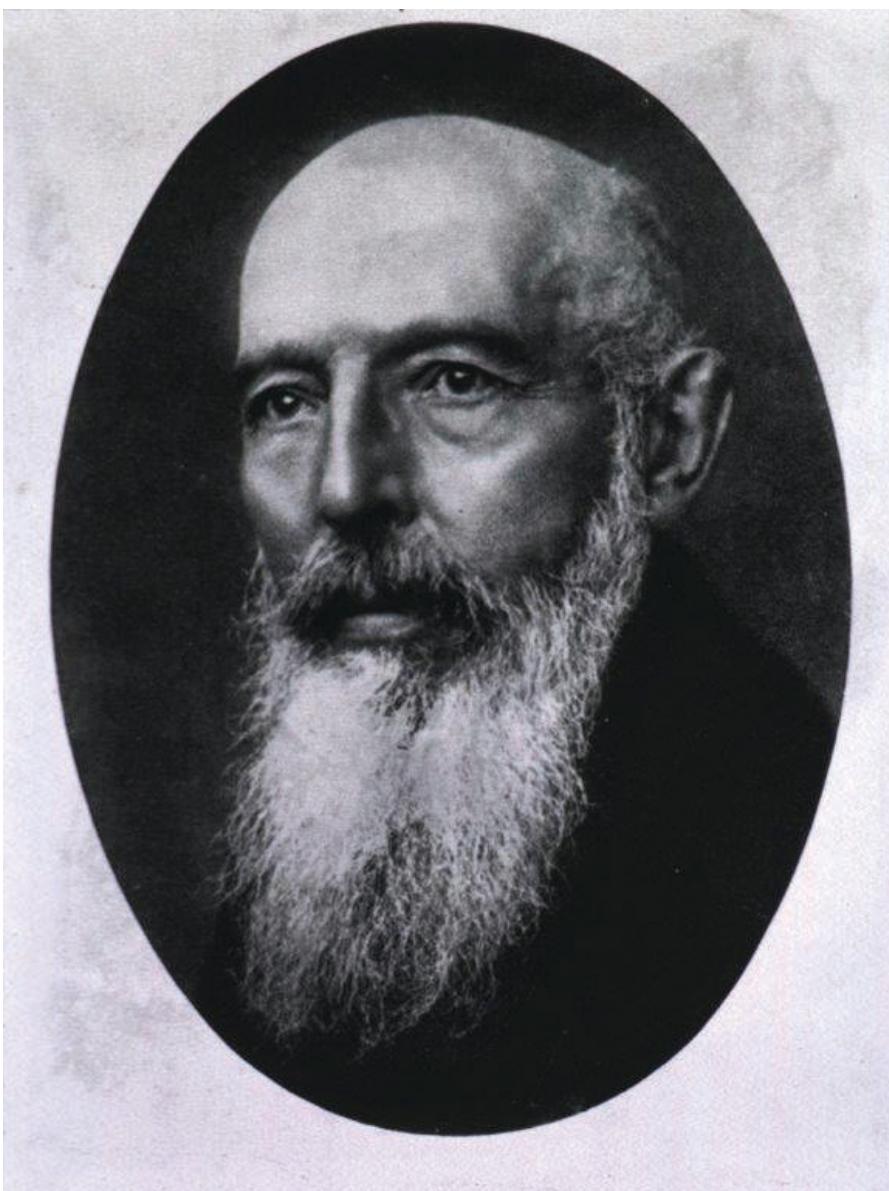


Figure 1. Gerhard Armauer Hansen. Photograph by J.F. Lehman, Munich, 1912. Public domain. Courtesy of the U.S. National Library of Medicine.

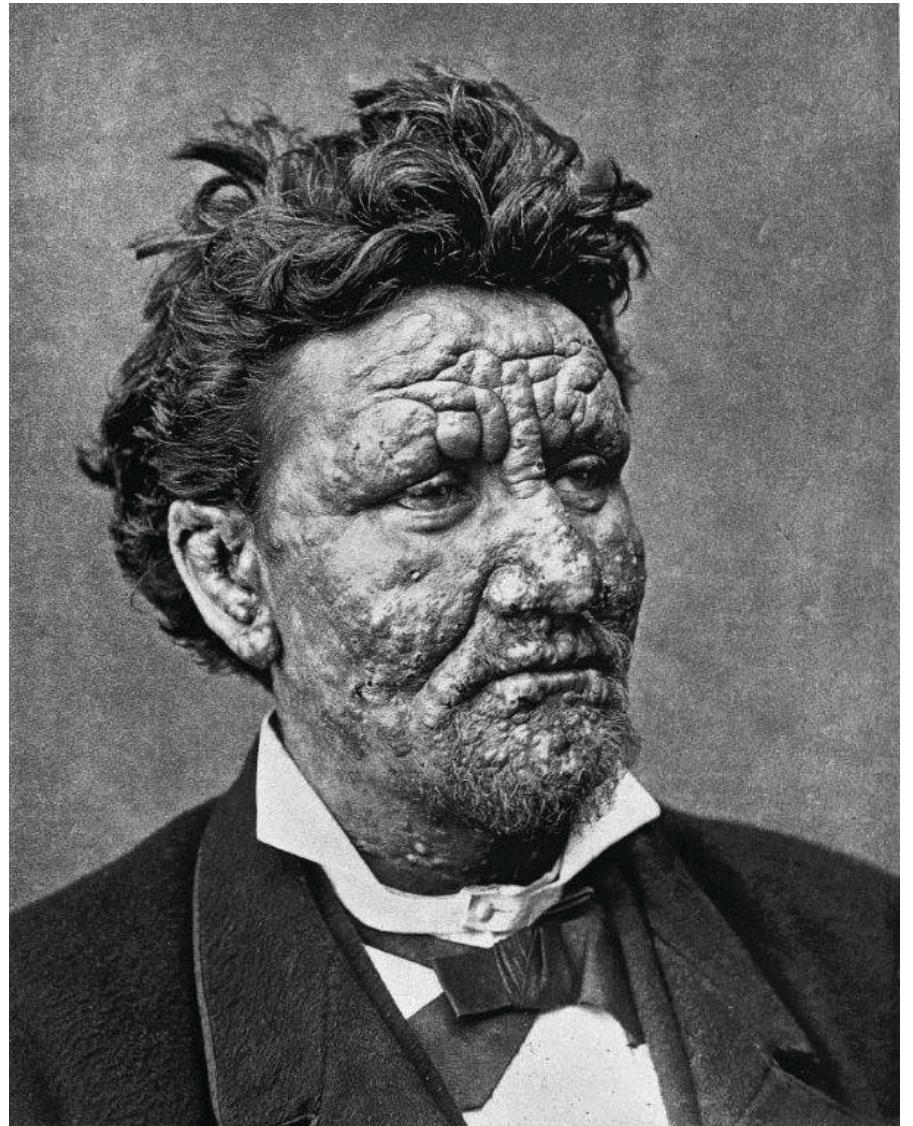


Figure 2. A 24-year-old Norwegian man with lepromatous leprosy. From Leloir H. *Traité pratique et théorique de la lèpre*. Paris: A. Delahaye et Lecrosnier. 1886. This figure was later reprinted by Hansen in his monograph (1895). Public domain. Courtesy of the Bibliothèque nationale de France.

engender some of the most acute infectious diseases, the attributing of the origin of such a chronic disease as leprosy to the apparently same matter must, of course, be attended with still greater doubts. It is worthy of notice, however, that the large brown elements found in all leprosy proliferations in advanced stages ... bear a striking likeness to bacteria in certain stages of development ...”

Hansen tried unsuccessfully to stain his preparations. In 1879, when Hansen was visited by Albert Neisser (1855-1916), a young colleague from the laboratory of German physician and pioneering microbiologist Robert Koch (1843-1910) in Breslau, Hansen, encouraged him to try to stain the bacteria. (See Figure 3.) Shortly after Neisser returned to Breslau, he succeeded in staining the bacteria, and then promptly announced his findings, suggested that these bacteria were indeed the infectious agent of leprosy, and claimed priority for the discovery.

Hansen replied quickly and tried

to assert his own priority, and by 1880 he had also succeeded in staining the bacteria. (See Figure 4.)

“It was not my intention to make any of my investigations on this subject public at present, but as not only Dr. Edlund to whom in the preceding year I showed preparations, and mentioned that I considered leprosy a parasitic disease, in his little work on ‘Leprosy’ speaks of its precise origin as something that he has discovered in the form of ‘micrococci,’ by also Dr. Neisser, of Breslau, who passed some portion of this summer in Bergen has just published the result of his investigations of those preparations that he made while here, and as these results also point out that in general, the preparations are filled with ‘bacilli’ which he supposes to be peculiar to leprosy, and as its ‘contagium’ — I feel myself called upon to announce what I have attained to, up to the present time, in my researches after the same ‘contagium,’ and, this, partly to assert my priority with reference to this discovery, and partly in order to ad-

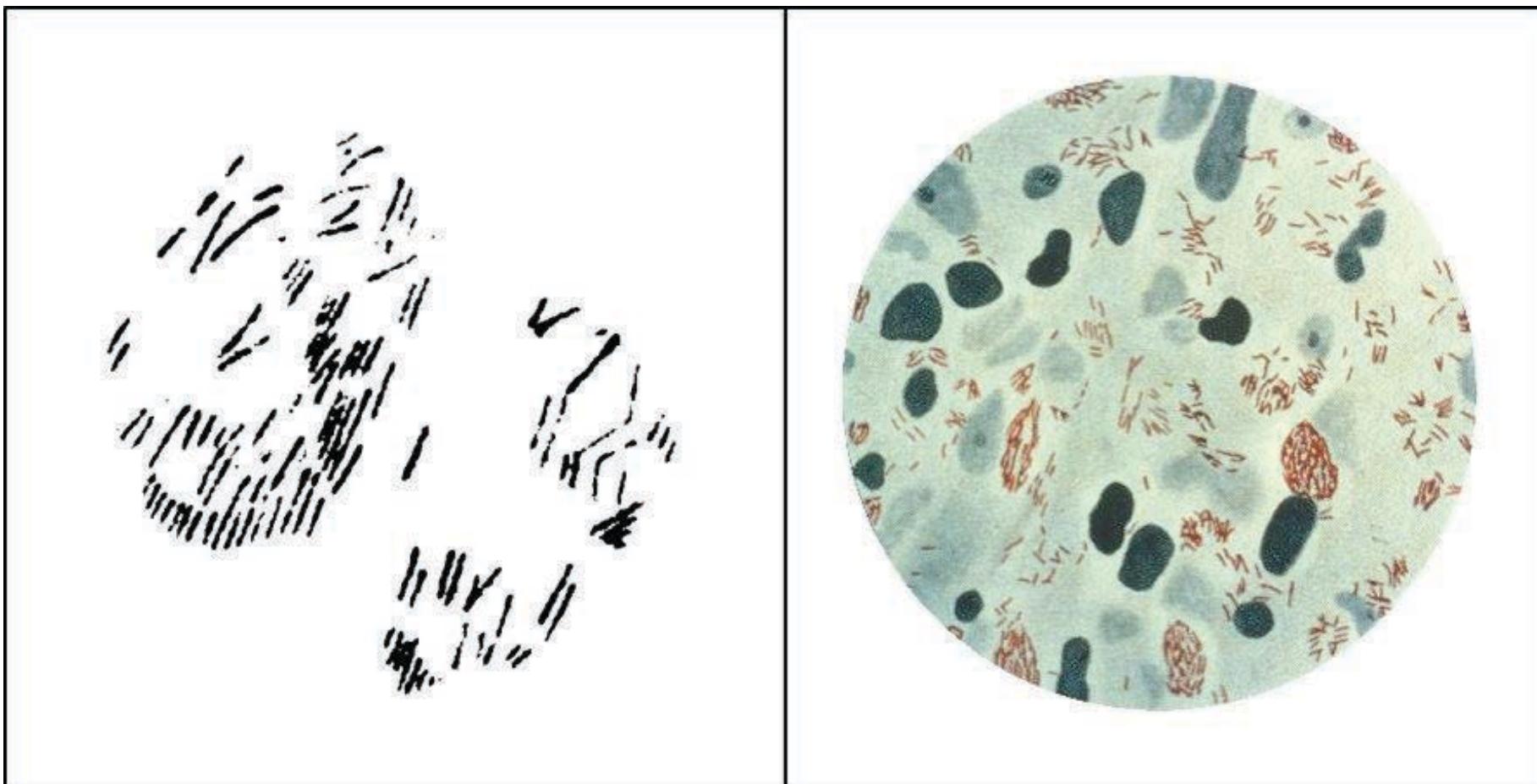


Figure 4. Left: Hansen's drawing (1880) of "brown elements colored with methyl violet, from a tubercle treated with osmic acid." From Hansen (1880). Right: A photomicrograph of *Mycobacterium leprae* (small red rods), taken from a leprosy skin lesion. Public domain. Courtesy of the U.S. Centers for Disease Control and Prevention, Public Health Image Library (PHIL) #2123.

vance those details in research which I omitted to announce on account of the still uncertain result in my report to the Medical Society of Christiania [Oslo], 1874, concerning my investigations into the etiology of leprosy."

Although an international consensus generally favored Hansen in this priority dispute as the discoverer of *Mycobacterium leprae*, neither Hansen nor Neisser succeeded in fulfilling Henle's postulates — the criteria to establish a causative relationship between a microbe and a disease propounded in 1840 by German physician, pathologist and anatomist Jakob Henle (1809-1885):

1. The microbe occurs in every case of the disease under circumstances that account for the pathological changes and clinical course of the disease;
2. The microbe occurs in no other disease as a nonpathogenic parasite; and
3. After being isolated and grown in pure culture in an artificial medium, it can induce the disease in an experimental host. These criteria were later augmented by Koch and subsequently known as the Henle-Koch postulates.

Neither Hansen nor Neisser demonstrated that the bacteria observed in cases of leprosy were specific to that disease, nor was Hansen able to transmit the disease to animals or humans using leprosy material from patients. Hence, at the time of the Hansen-Neisser controversy, it remained unproven that leprosy is infectious, despite even an unethical attempt by Hansen to transmit leprosy to a patient without informed consent. Furthermore, to

this day *Mycobacterium leprae* has not been grown in pure culture in an artificial medium. •

References:

1. Evans AS. Causation and Disease: The Henle-Koch Postulates Revisited. Yale J. Biol Med. 1976;49(2):175-195.
2. Fite GL, Wade HW. The Contribution of Neisser to the Establishment of the Hansen Bacillus as the Etiologic Agent of Leprosy and the So-called Hansen-Neisser Controversy. *Int J Lepr.* 1955;23:418-428.
3. Hansen GA. *Spedalskhedens Arsager* (causes of leprosy). Translation by Pierre Pallamary. *Int J Leprosy* 1955;23:307-309.
4. Hansen GA. On the Etiology of Leprosy. *Br Foreign Medico-surgical Rev* 1875;55:459-489.
5. Hansen A. The Bacillus of Leprosy. *Q J Microscopical Sci* 1880;20:92-102.
6. Hansen GA, Loeff C. *Leprosy: In Its Clinical & Pathological Aspects*. Translated by Norman Walker. Bristol: John Wright & Co., 1895.
7. Irgens LM. The Discovery of *Mycobacterium leprae*: A Medical Achievement in the Light of Evolving Scientific Methods. *Am J Dermatopathol* 1984;6(4):337-343.
8. Vogelsang TM. The Hansen-Neisser Controversy, 1879-1880. *Int J Lepr.* 1963;31:74-80.
9. Vogelsang TM. Gerhard Henrik Armauer Hansen: 1841-1912: The Discoverer of the Leprosy Bacillus. His Life and his Work. *Int J Lepr* 1978;46:257-332.
10. Peter J Koehler is the editor of this history column. He is neurologist at Atrium Medical Centre, Heerlen, The Netherlands. Visit his website at www.neurohistory.nl.

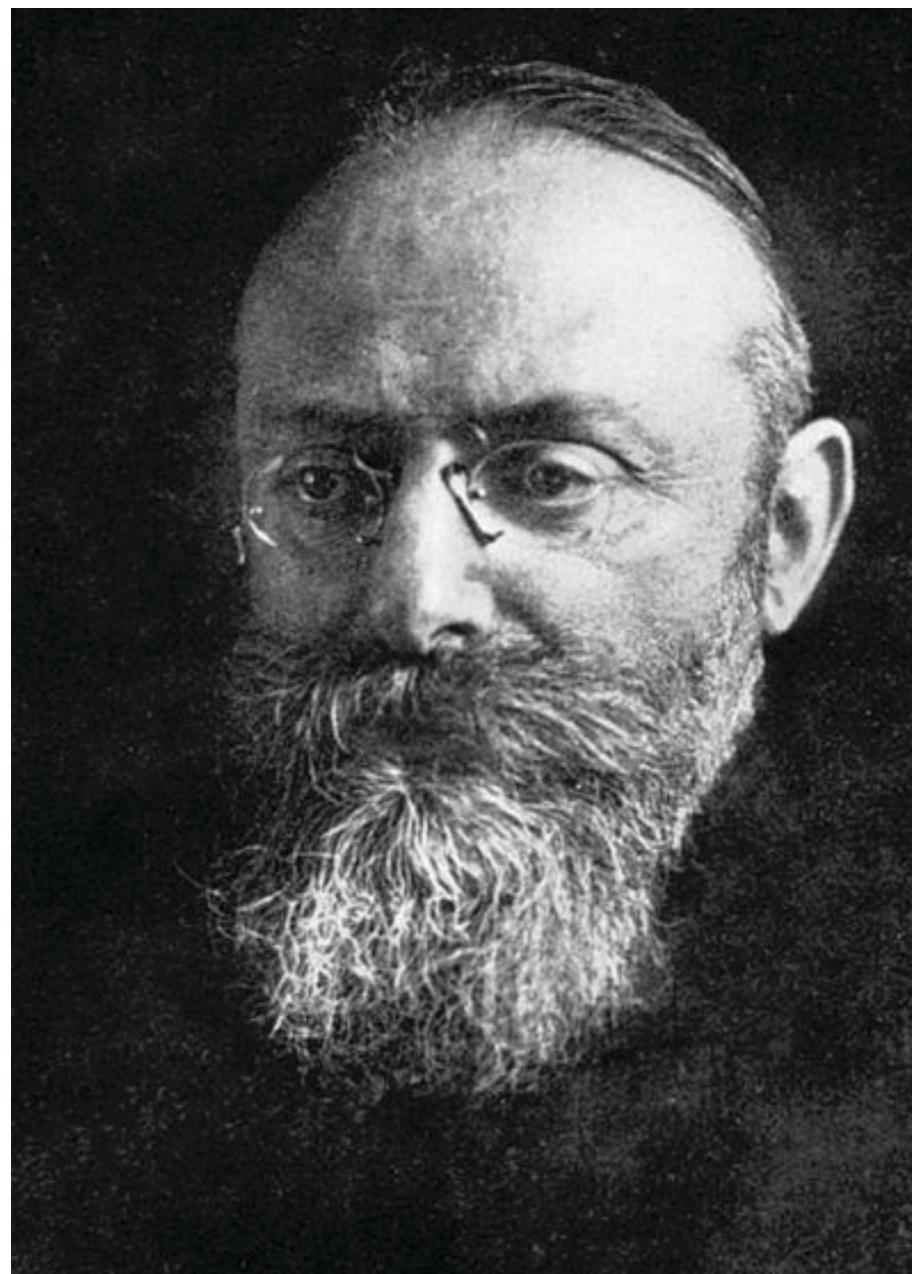


Figure 3. Albert Neisser. Public domain. Courtesy of the U.S. National Library of Medicine.

DIAGNOSTIC

continued from page 1

to receiving a diagnosis), and it is estimated that 84 to 91 percent of people with this condition have not yet been diagnosed.

There is significant economic burden associated with this condition as one quarter of patients are bed- or house-bound at some time during their illnesses. ME/CFS patients have been found to be more functionally impaired than patients with other disabling illnesses, such as diabetes mellitus, congestive heart failure, hypertension, depression, multiple sclerosis and end-stage renal disease. Unemployment rates range from 35 to 69 percent in these patients. ME/CFS patients have loss of productivity and high medical costs that lead to an estimated economic burden of \$17 billion to \$24 billion yearly.

In general, ME/CFS is a condition that is poorly accepted as its pathophysiological mechanisms are poorly understood, and many contest the characteristics needed to make a diagnosis. There continue to be many misconceptions regarding ME/CFS, including that it is a psychogenic illness. Many times, patient symptoms are met with skepticism or even dismissal. After diagnosis, many people with ME/CFS report being subject to hostile attitudes from their health care providers. The cause of ME/CFS is currently unknown; however, symptoms may be triggered by different infections or other prodromal events, including “immunization, anesthetics, physical trauma, exposure to environmental pollutants, chemicals and heavy metals and, rarely, blood transfusions.”

The IOM was asked by the Department of Health & Human Services, the National Institutes of Health, the Agency for Health Care Research & Quality, the CDC, the Food & Drug Administration and the Social Security Administration to convene an expert panel to review the evidence basis for ME/CFS. This was a comprehensive committee of 15 members that convened in September 2013 and took into account data from patients, clinicians and researchers while also reviewing almost 1,000 public comments. This was followed by a comprehensive literature review to help identify new diagnostic criteria to be used by clinicians. Based upon their work, a new name was recommended to replace ME/CFS. Previous studies have shown that the term “chronic fatigue syndrome” can negatively affect patients and medical professionals’ perceptions of the illness and trivialize the seriousness of the disease. “Myalgic encephalomyelitis” is also inappropriate as there is no evidence of encephalomyelitis in these patients, and myalgia is not a core symptom of this disease. The new name that has been recommended for use is systemic exertion intolerance disease (SEID); this new name is felt to encompass the central characteristic of

the disease: the fact that exertion of any kind can negatively affect patients in multiple different organ systems.

A new set of diagnostic criteria was also developed by the group with the intent to ease the process of making a diagnosis of ME/CFS (SEID) and hopefully, decrease the time to make a diagnosis for many patients. The new diagnostic criteria that were developed by the IOM committee are detailed in Table 1. The core features include: fatigue and impairment, post-exertional malaise (PEM) and unrefreshing sleep.

There is significant economic burden associated with this condition as one quarter of patients are bed- or house-bound at some time during their illnesses.

All of these features need to be present for one to be diagnosed with ME/CFS (SEID).

Fatigue as defined in the dictionary is “weariness from bodily or mental exertion.” Sufficient evidence has been found that fatigue is profound in ME/CFS (SEID). Dramatic examples of reports of fatigue in patients with ME/CFS (SEID) include feeling “too exhausted to change clothes more than every 7-10 days” and experiencing “exhaustion to the point that speaking is not possible.” More commonly, patients report fatigue as “exhaustion, weakness, a lack of energy, feeling drained and an inability to stand for even a few minutes.” The fatigue must be associated with a significant reduction or impairment in the ability to engage in pre-illness levels of occupational, educational, social or personal activities. This degree of fatigue must also persist for more than six months.

Another core symptom, post-exertional malaise (PEM), is found consistently in patients with ME/CFS (SEID) and felt to help distinguish it from other conditions. A patient’s symptoms worsen after exposure to physical or cognitive stressors that were previously well tolerated prior to onset of the disease. Descriptions provided by patients after an exertional task include “crash,” “exhaustion,” “flare-up,” “collapse,” “debility” or “setback.” PEM may occur within 30 minutes of an exertional task or be delayed up to seven days after an exertional task with the duration of PEM lasting hours to months. In studies comparing ME/CFS (SEID) patients with healthy controls, 86 percent of patients report minimum

exercise makes them tired compared to 7 percent of controls. Additionally, 85 percent of ME/CFS (SEID) patients report that they feel drained after mild activity compared to 2 percent of healthy controls.

The third and final core symptom is unrefreshing sleep for which 92 percent of ME/CFS (SEID) patients report compared to 16 percent of controls. The typical sleep-related symptoms described by ME/CFS (SEID) patients include difficulty falling asleep, frequent or sustained awakenings, early-morning

effective in reducing or relieving symptoms of unrefreshing sleep. However, a polysomnogram is not required to diagnose ME/CFS (SEID). Currently, there is no strong evidence to identify ME/CFS (SEID)-specific sleep pathology despite some studies revealing differences in sleep architecture in a subset of ME/CFS (SEID) patients compared to healthy controls.

In addition, there are two supportive criteria included in the new definition, of which one of two is required to be present to meet a diagnosis of ME/CFS (SEID). These include cognitive impairment and/or orthostatic intolerance. Common features of cognitive impairment that are seen in ME/CFS (SEID) include complaints of problems remembering, difficulty expressing thoughts, difficulty paying attention, slowness of thought, absent-mindedness and difficulty understanding. It is suggested that slowed information processing plays a central role in the cognitive impairment associated with ME/CFS (SEID). This deficit can lead to significant disability that results in loss of employment as well as functional capacity in social environments. Neuropsychological testing has found that patients with ME/CFS (SEID) display deficits in working memory compared with healthy controls with reduced verbal and visual memory being the most consistent finding. The second feature, orthostatic intolerance, refers to worsening of symptoms upon assuming and maintaining an upright position. Symptoms are typically improved but may not be alleviated by

awakenings and nonrestorative or unrefreshing sleep (persistent sleepiness despite adequate duration of sleep). Primary sleep disorders such as sleep-disordered breathing, restless legs syndrome and narcolepsy should be considered and evaluated for if clinically indicated as treatment of these disorders can be

TABLE 1. DIAGNOSTIC CRITERIA FOR ME/CFS (SEID)

Diagnosis requires that the patient have the following three symptoms:

- A substantial reduction or impairment in the ability to engage in pre-illness levels of occupational, educational, social or personal activities that persists for more than six months and is accompanied by fatigue, which is often profound, is of new or definite onset (not lifelong), is not the result of ongoing excessive exertion, and is not substantially alleviated by rest.
- Post-exertional malaise
- Unrefreshing sleep*

At least one of the two following manifestations is also required:

- Cognitive impairment*
- Orthostatic intolerance

*Frequency and severity of symptoms should be assessed.

The diagnosis of ME/CFS (SEID) should be questioned if patients do not have these symptoms at least half of the time with moderate, substantial or severe intensity.

lying down or elevating their feet. There is sufficient evidence that indicates a high prevalence of orthostatic intolerance in patients with ME/CFS (SEID) based on bedside orthostatic vital signs, tilt table testing or by patient reported worsening of symptoms with standing in day-to-day life.

The committee also described additional frequent findings found in ME/CFS (SEID) patients, which include pain, immune impairment, infection and miscellaneous symptoms. Pain was found to be common in patients who had ME/CFS (SEID) with complaints of headaches, myalgias and arthralgias being most common. There was sufficient evidence found that supported the finding of immune dysfunction in these patients with data revealing poor NK cell cytotoxicity that correlated with illness severity in ME/CFS (SEID). This finding, however, is not specific to ME/CFS (SEID). Additionally, there was evidence that ME/CFS (SEID) can occur after infection with EBV, but there was not sufficient evidence to conclude that all cases of ME/CFS (SEID) are caused by EBV. Less frequent symptoms that were found in patients with ME/CFS (SEID) include gastrointestinal impairments, genitourinary impairments, sore throat, painful or tender axillary/cervical lymph nodes and

sensitivity to external stimuli (e.g., foods, drugs, chemicals).

In summary, ME/CFS (SEID) is a serious, chronic, complex and systemic disease that often significantly limits the day-to-day activities of those affected. It is characterized by a prolonged, significant decrease in function; fatigue; post-exertional malaise; unrefreshing sleep; difficulties with information processing, especially under time pressure; and orthostatic intolerance. A thorough history, physical examination and targeted evaluation are necessary and can be sufficient to make a diagnosis. Despite the high prevalence of this condition with associated high economic burden, little research has been conducted to study the etiology, pathophysiology and effective treatment of this disease. Moving forward, it will be vital to distinguish this disease against other complex fatiguing disorders as the majority of previous research has compared ME/CFS (SEID) patients to healthy controls. Additional research into ME/CFS (SEID) is essential for further progress to be made, and the term “chronic fatigue syndrome” should no longer be used due to the associated stigma, which often precludes patients from receiving appropriate care. It is critical that we do our part to help stop the stigma associated with this condition and provide optimal care of these patients. •

to strength. The AAN and the publisher donate the hard copies to the WFN, and the WFN distributes the course globally. It is now used in 47 countries. Dr. Steve Lewis is the editor and is a WFN co-opted trustee.

At the end of the meeting, Dr. Terence L. Cascino took over as president of the AAN, and Dr. Ralph L. Sacco was elected as president-elect.

No report on the 67th Annual Meeting of AAN could be complete without a special mention of the erudite lecture given by outgoing president Dr. Tim Pedley (link below). The title was “Moving the Academy Forward: Challenges and Opportunities,” and the talk was mesmerizing. His views on neurology as a nonprocedural specialty were spot on. Although the content understandably relates to the U.S. health care system, there are lessons for us all across the world. Indeed, our spectrum and capabilities have markedly improved but the challenges have also grown. The shortage of neurologists in the face of an aging population with increasing numbers of those affected by neurodegenerative diseases is frightening, and in a way it is now recognized by governments as the World Health Organization has emphasized in a recent meeting on dementia that this condition and its cost will cripple world economies in 30 years.

The close ties binding the WFN and the ANN will only grow stronger over the coming years. •

https://www.youtube.com/watch?v=y_a6mJ3rc2Gs&feature=youtu.be

MANAGEMENT

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countries, there is still great lack of specialists for taking care of pain. Prevalence of migraine in Morocco is estimated to 13 percent. Eighteen percent of patients suffering from headache have at least visited one or many healers (Kissani et al, 2009). Results of research supported by “Lifting the Burden: The Global Campaign to Reduce the Burden of Headache Worldwide” Initiative revealed that 85 percent of the 3,600 interviewed people reported more than one headache last year. About 22.5 percent of them suffered from chronic headaches: tension type (48 percent) and migraine (26 percent). Fifty percent used modern medications (55 percent paracetamol; 10 percent aspirin; cost: \$22/month). (Some use of combinations also are reported). Ten percent reported consulting traditional healers.

Hellen Kariuki, professor of physiology at Nairobi University, reported on “Natural Traditional Methods to Overcome Pain.” She reported about the dramatic and rapid change of Africans’ lifestyle. Plants are rich sources of pain management around the world. She described some plants that are used by local tribes as painkillers. She discussed how to benefit from these findings and local opportunities to concretely improve management of pain in developing countries.

Rachid Bezaad, professor of gynecology (Morocco), discussed “The Contribution of Morocco and Africa to Medicine” and described the health system in Morocco and the opportunities of training and cooperation offered by his country.

Days 2-4

Days 2-4 were dedicated to various lectures, cases presentations and practical courses (such as group learning with patients suffering from headaches and practical training in invasive analgesia techniques, peripheral nerve blocks, trigger point injection and acupuncture). Various thematic topics were developed during exciting lectures: classification and evaluation of headache; how to investigate headache patients in restricted resource-setting; choice of treatment options; migraine headache and its mechanisms and management; chronic daily headache and its neurobiology and differential diagnosis; history taking of headaches and pain by specialists; secondary headaches; headaches attributed to infections; women and headache; headache in children and adolescents; chronic pain disorders; and invasive treatment in headache and pain.

The meeting was successful in all aspects: organization, scientific program, and social and friendship environment.

This educational meeting was an excellent opportunity to learn about the diagnosis and management of headache and pain disorders, new developments in the science of headache medicine and

the care of headache sufferers.

Through the meeting, everybody has learned more about the current conditions in and requirements for headache in Africa. The meeting will promote the cooperation and interactions among headache specialists from the IHS, various headache societies across African countries, Turkey and worldwide.

It was a contributive additional action for the vision of World Federation of Neurology to promote, via its Africa Initiative, training and exchanges as a leveraging opportunity for trainees and specialists continuing professional development in Africa. This meeting comes also as an additional contribution of Turkish Neurology Society in regard to this aim, because this country is already offering (over three years) two scholarships per year, for a month short-term training in neurology departments of Turkish universities for young African neurologists.

Next plans will aim to educate young leaders and increase skills for and knowledge about headache and pain management to alleviate pain and increase quality of life of people with headache disorders throughout Africa. A short- and long-term plan of action has been discussed and will increase the implication of Turkey, IHS and other specialties to fulfill training needs in Africa, in addition to their various contributions during the Regional Teaching Courses organized by European Academy of Neurology and WFN in Africa for 8 years. For more information, visit www.tahpm.org. •

AAN CONGRESS

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and chaired the WFN education committee for many years. There was agreement on creation of the fund, and this will be followed by more detailed discussions in the next few months.

The WFN last year created a regional liaison committee chaired by the AAN President Dr. Tim Pedley. This committee met and heard presentations from the six regions of the WFN. Closer collaboration between regions is the purpose of this committee and this is being achieved.

There is no doubt that neurological needs in Africa are paramount, and this was reflected in the leadership meetings and a special Pan African meeting, which was convened by the AAN and attended by stakeholders, including the leaderships of the two organizations and others including Dr. James Bower, Dr. Farah Mateen (chair, Global Health section) and Evelin Sipido representing the European Academy of Neurology with its special interest in annual courses for African neurologists.

Prof. Gallo Diop (Senegal) eloquently presented the needs and offered solutions with measures to ease the huge deficiency of neurologists in Africa. A tentative plan to train neurologists in Africa was discussed with the aim of opening four training centers, two in Francophone and two in Anglophone countries. Rabat and Cairo are already in operation, to be followed by Dakar and Cape Town.

The long-standing partnership between AAN and WFN continues from strength

NEUROSONOLOGY

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their own laboratories in their respective departments.

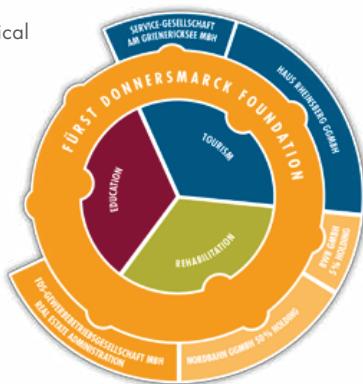
CUNU supports candidates for their master’s and PhD theses. Since 2006, team members have performed more than 20 projects for both master’s and doctoral degrees. In addition, many post-doctoral research projects have been completed and even published in peer reviewed journals. The main research interest of our group is the role of ultrasound in cerebrovascular and neurocritical care.

Last month, the WFN Educational Board visited the department of Neurology at Cairo University for accreditation as a training center for English-speaking countries in Africa. The visiting board was impressed by the department as a whole, and many positive comments were received with special attention to the neurosonology unit, recognizing it as “exceptional.” •

Abd-Allah is professor of neurology and stroke medicine and head of the neurosonology unit at Cairo-University, Egypt. He is also an executive member of the Neurosonology Research Group of WFN and the WSO board of directors for Middle East and North Africa.



The rehabilitation of people with physical and multiple disabilities as well as the promotion of scientific research in this field are the objectives of the Fürst Donnersmarck-Foundation, Berlin, which was founded in 1916. The foundation has 600 employees working in the fields of rehabilitation, education and tourism.



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NEW IDEAS - NEW OPPORTUNITIES

The Board of Trustees of the Fürst Donnersmarck-Foundation Berlin, which is dedicated to the rehabilitation of people with physical and multiple disabilities, awards a **research prize** for neuro-rehabilitation.

The **prize money of EUR 30,000** can be distributed between more than one winner. An additional five commendations may also be awarded in the amount of EUR 3,000.

The prize is awarded for **current scientific research work** in the field of neurological rehabilitation of people with acquired damage to the nervous system. The focus of the work should be on post-clinical long-term rehabilitation, and we are particularly interested in interdisciplinary rehabilitation strategies and methods, as well as the examination of scientific effectiveness and efficiency (outcome research), and how these developments meet the special needs of rehabilitation providers, funding bodies and political institutions (socio-economic effects).

You may submit **academic dissertations and theses, published project reports, book publications and specialist journal articles in German or English language** which have been completed within the past two years.

The prize will be awarded by the Board of Trustees of the foundation on the basis of the recommendation of a **jury** made up of **scientists and doctors working in the field of rehabilitation**.

In your application, please enclose the following **documents**:

1. The scientific paper(s) or dissertation, with a summary
2. A justification for the submission in terms of the goals of the prize
3. Curriculum vitae with scientific career

The decision of the trustees is final and cannot be contested.

Applications must be submitted by **30 June 2015** to:
forschungspreis@fdst.de

Queries can be sent to:

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In 1916, Count Guido Henckel, Prince of Donnersmarck, set up the Fürst Donnersmarck-Foundation in Berlin as a "major convalescence and treatment clinic" for the war wounded, together with a "Research centre for the scientific study and therapeutic evaluation of the medical experience gained in the current war."

Today, the foundation runs institutions for the rehabilitation and support of people with physical and multiple disabilities. At the same time it has also set itself the goal of supporting research work in the field of rehabilitation.

In 2006, to mark the foundation's 90th anniversary, it established a **research prize** in the field of rehabilitation. The prize will be awarded for the fourth time in 2015.



JURY

Chair

Prof. Dr. Paul Walter Schönle
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WEDNESDAY, APRIL 8, 2015

