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Why a World Federation of Neuroradiology Societies?

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able. With this short editorial, I hope that I have introduced this concept to our readers.

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EDITORIAL

Why a World Federation of Neuroradiology Societies?

In our rapidly evolving world, neuroradiology already has a past and a palpable story. The first neuroradiologic examinations were invasive and date back to the early 20th century. The first Symposium Neuroradiologicum was organized 79 years ago. Since then, neuroradiology has progressed with dynamism but without acquiring recognition as a true specialty worldwide.

Objectively speaking, neuroradiology is scientifically strong but politically weak. It is possible that some of our current difficulties are due to the different backgrounds of the individuals wishing to practice neuroradiology (notably interventional neuroradiology) and to the large variety of practices that exist. Indeed, our training is extremely varied: If in many countries, radiology remains the traditional way to access neuroradiology, in many other countries, and especially for the therapeutic field, neurosurgery is the predominant way. This variability is also obvious in the background of individuals practicing in other subspecialties, such as pediatric neuroradiology, functional imaging, spine imaging, and head and neck radiology. These subspecialties are important because given the rapid progress that characterizes our time, it is impossible to master all aspects of neuroradiology.

It is now that the importance of the World Federation of Neuroradiology Societies (WFNRS) is most critical. Founded in Kumamoto in 1994, thanks to the energy and will of Derek Harwood Nash, the WFNRS aims to facilitate the worldwide development of neuroradiology. This objective is ambitious because the organization of neuroradiology in the United States has, in reality, little in common with the organization of neuroradiology in China, Russia, or Africa. We, therefore, need to think globally at all stages, from basic training to continuous medical education, practice, and accreditation and, at the same time, to evaluate our relationships with other specialties.

Organization of training often means confining ourselves to the basic framework of the specialty, which remains radiology-based. In all countries, physicians are conservative; this fact limits embracing new avenues. Few understand that the current organization of medical specialties is a century old; the last century was a period during which concepts and techniques have dramatically changed. How can we imagine that it is reasonable to continue to do our work within structures that were created in a totally different environment? It is urgent to adapt our structures to new realities. Adaptation means letting older structures evolve and changing them. This is a difficult task due to individual interests. Only by grouping our effort and expertise and supporting and developing research will we continue to progress in our knowledge of the nervous system. The WFNRS must be capable of providing guidance in all steps of our profession.

Education and training have been the subjects of many of our discussions during the years. Our thoughts are based on the following definition: clinical neuroradiology is a medical specialty using imaging as a fundamental component in diagnostic, functional, and interventional procedures for patients with diseases of the brain; sensory organs; head and neck; spinal cord, vertebral column, and adjacent structures; and the peripheral nervous system in adults and children. The WFNRS proposes the following organization with respect to training and education to become a neuroradiologist: a minimum of 5 years full-time study at a program accredited by a relevant body. The time spent in neuroradiology should be no less than 3 years, 1 of which can be part of general radiology training. Two years may be spent in a related discipline, 1 year each in general radiology and a clinical neuroscience. Training should focus on diagnostic neuroradiology and may, by agreement between the program director and trainee, include in-depth training in pediatric, functional, or head and neck neuroradiology or a first year in interventional neuroradiology. Radiology, neurology, and neurosurgery have long fought to claim the privilege of training and exercising neuroradiology. My analysis of this situation is that the ideal solution would be a multidisciplinary training that reinforces a core knowledge of neurosciences that bridges all specialties involved.

Once these basic concepts are settled, the WFNRS should establish the general rules of training, precise and effective but also flexible enough to adapt to the needs of different countries. The WFNRS currently works with diagnostic and therapeutic scientific societies to establish and publish standards of training that will enable developing countries to achieve levels of competence in accordance with international standards. We are currently working to extend this approach to post-training assessments and continuing medical education.

Who will provide training, accreditation, assessment, and validation? It is not easy to answer this question. In most countries, medical schools and universities have traditionally focused on providing training in basic disciplines. Within the past decades, we have seen an increase in specialization. In Europe, the European Union of Medical Specialists deals with these issues. In France, it seems likely that the government will allow the French Society of Neuroradiology to decide who will train neuroradiologists, under which conditions it will function, and who will validate this training.

In this context, some scientific societies have asked the WFNRS to grant diplomas in neuroradiology that have international recognition. After much consideration, we believe that the WFNRS must avoid doing this. Our role is to facilitate a discussion that begets general rules but respects the medical

organizations of different countries. These situations generate complex ethical issues. We have also discussed the need to create committees of ethics that reside in international scientific societies, but at this moment, we have no definite projects in this regard. Cultures are so varied that it is impossible to propose appropriate answers for all of these issues.

It is clear that an individual cannot master all facets of radiology and that specialization focused on organ-based systems, such as the nervous system, is best. A working group on subspecializations within the WFNRS believes that subspecialization attests to the importance of neuroradiology and allows us to progress rapidly when specialties comprise enthusiastic individuals who want to resolve, as soon as possible, the problems we face. In light of all these elements, the concept of accepting that neuroradiology belongs to the larger sphere of the neurosciences is becoming more and more evident.

The term "neurosciences" is not an elitist one. Experience shows that to progress, we must share ideas with colleagues whose knowledge is different from ours. To allow this exchange of ideas, we need a common language. This reinforces the need for a common basic training that would consider all aspects of the nervous system. This training would constitute an ideal starting point and should include all of the basic knowledge necessary to approach neurologic disease: neuroanatomy, neuroembryology, neuroimmunology, neuropathology, neurobiology, etc. Sharing this common background will allow neuroradiologists, neurosurgeons, and neurologists to interact with each other and will facilitate future collaborations. Indeed, for several years, many of us have fought for the development of "bridges" between specialties. With this in mind, the WFNRS has pledged to develop an international course of neuroscience to be held in the years between meetings of the Symposium Neuroradiologicum. This course could serve as a launching pad to allow individuals to acquire the essential knowledge for training of the various specialties that make up the neurosciences. Of course, all these projects take time, effort, and money. It takes time to think together, to build solutions, and to obtain a consensus. It is important to convince our colleagues that these developments are not only useful but necessary so that our specialties can evolve and move forward.

The following example illustrates this course of action: For years, treatment of intracranial aneurysms has been based on mechanical designs: to clip, embolize, or divert blood flow from the aneurysmal sac. Nevertheless, we are confident that this is a beginning because we are only starting to understand diseases of the arterial walls. Advances in our knowledge of the arterial wall will allow us to differentiate better different types of aneurysms and, consequently, to define therapeutic strategies better. It is likely that in the near future, medical treatment will gradually replace mechanical treatments. This means that research must be organized, focused, and dependent on the urgency, frequency, and social and economic significance of the disease. The WFNRS has a role to play in structuring this type of organization and in establishing a relationship of trust among members of the neuroscience community leading us, neuroradiologists, to move in a congruent and efficient manner so that our patients can reap the benefits.

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