NINDS Participation in Neurosurgical Training Programs

The Purpose and Scope of the Neurosurgical Training Program of the NINDS

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Since my arrival at the National Institute of Neurological Diseases and Stroke last September, I have become increasingly aware of the importance of research training programs, particularly those in neurosurgery, to the overall mission of this Institute.

The primary objective of the NINDS neurosurgical training program is the development of personnel for academic and research careers. Through grants to institutions and awards to individuals, the Institute has sought to increase the number of neurological surgeons available to train needed teacher-investigators and scientist-physicians in this specialty area. More and more men with the special skills of basic science are required in the neurosurgical program. Only in this way can the continued vitality of neurosurgery and the development of superior teachers and investigators for the future be assured.

The NINDS Graduate Training Grant Program was inaugurated in 1953, 1 year after the first funds were appropriated for the newly established National Institute of Neurological Diseases and Blindness. By 1957, 4 years later, there were graduate training programs active in a wide variety of disciplines relating to the neurological and sensory diseases. These included neurology, child neurology, neuropathology, the basic neurological sciences, ophthalmology, otolaryngology, audiology, and auditory physiology. Neurosurgery was conspicuously missing, and it was not until 1961 that the first grants were awarded for training in neurosurgery.

Many of you are familiar with the reasons why training programs in neurosurgery were late in getting underway, but for the benefit of those who may not know or who have perhaps forgotten, let's go back to the early fifties.

Beginning about 1951, discussions were held by members of the profession about the position of neurosurgery in respect to federal support of training and research through the National Institutes of Health. At the Harvey Cushing Society meeting in Vancouver in 1952, the floor discussion was strongly against the involvement of neurosurgery in any way with the federal support program. The discussion that same year in the meetings of the Society of Neurological Surgeons in St. Louis was somewhat more in favor of a cooperative attitude toward research support.

Nevertheless, the neurosurgical profession generally believed that a sufficient number of neurosurgeons were being produced each year and that additional neurosurgical training support from the federal government might result in over-production of these specialists. On the basis of this advice, therefore, Institute support for neurosurgical training was limited specifically to the award of research fellowships to individuals for preclinical research training.

In the years between 1953 and 1959, however, the picture began to change. Gradually it became apparent that although practicing neurosurgeons were not in the short supply evident in many other medical disciplines, there was an urgent need for the skilled neurosurgeon with the additional preparation required for a career in research and academic medicine. Once convinced of this need, the national societies strongly and actively encouraged the development of this aspect of neurosurgical training. As a result, applications for support were submitted to the NINDS, and a substantial number of training grant programs have been established during the intervening 8 years.
Many of you have asked the question: "What can NINDS training grant funds be used for?" Graduate training grants in neurosurgery, like all other training grants administered by the NINDS, can provide money to improve the training environment by means of providing salaries for additional professional and technical teaching staff, training equipment, and supplies. Its primary purpose, of course, is to provide funds to be used for the expenses of the trainees, including stipend, tuition, and travel to scientific meetings in the United States.

Many neurosurgical directors have felt they could only use stipend money during the time the trainee was in actual research or in basic science training. However, the true situation is that, under NINDS training grant policy, a trainee may be supported from training grant funds from the day he begins his training in general surgery until he completes neurosurgical training 5 to 7 years later. The point is that the trainee can be supported during his entire training program, providing the intent and substance of the training is to prepare him for a career in academic medicine or research; this can include the clinical training required for such a career.

The selection of trainees to receive NINDS stipends and, within certain guidelines, the amount of the stipends to be awarded, is completely the responsibility of the training program director and the institution. This is in conformity with our long-time conviction that progress in research can best be made by attracting and supporting gifted scientists and then permitting them maximal freedom.

Additional training support may be provided by postdoctoral and special fellowships which are awarded to individual scientists, both clinical and laboratory, who desire training of a specialized nature. Special fellowships are available to neurosurgeons after completion of residency training, and to the more mature neurosurgeon who may desire either total or partial support for research training.

As a background for further discussion, let me review briefly what the Institute's neurosurgery training program has accomplished, and what it seeks to accomplish in the future.

Beginning in 1961 with a single program having only four trainees, and costing a total of $12,789 per year, support of neurosurgery research training has grown modestly but steadily. The greatest rate of increase came in 1966 when there were 13 grant supported training programs with 60 trainees supported by funds totalling almost a half a million dollars. This represented more than twice the number of programs, almost three times the number of trainees, and well over twice the dollar support of the previous year.

Currently, the Institute supports 20 neurosurgical research training programs involving 91 trainees. In addition, there is one program providing specialized training in cerebrovascular surgery. There are also two developmental training grants in neurosurgery whose purpose is to initiate or to improve training programs in schools where the need exists and an opportunity is available to initiate a new program.

More interesting to me by far than numbers of persons in the program is the quality of the men participating in the program. I'm sure there is no need to remind this audience that surgery of the nervous system has never attracted those desirous of quick and easy training or those who might see the way clear to relaxing into an easy routine as soon as their training is finished.

Neurosurgeons participating in training programs supported by the NINDS are invariably highly skilled in the practice of their art. In large measure these men emerge from their additional training period endowed as teacher-investigators and laboratory and clinical scientists. They have learned the value of scholarship. They are aware, as never before, of the fundamental truth of the statement that from yesterday's research comes today's teaching and tomorrow's practice.

If there was a ledger sheet available on the past history of the research training program in neurosurgery, I am sure that we would find that the assets far outweigh the debits. But what of tomorrow? Where do we go from here?

Many of us are troubled by recent financial restrictions. These cutbacks have not yet seriously affected ongoing training activities. But they have restricted growth and impaired development. The influx of young in-