

Executive Summary

March 2003



Prof. Dr. Erwin Neher

Chair

The External Review Committee

The University of Tokyo Graduate School and Faculty of Medicine is among the leading institutions of biomedical research and education in Japan. In anticipation of pending structural reforms the senior faculty members have decided to perform a review of its research activities. For this purpose 21 experts from top biomedical institutions throughout the world and Japan have been invited for a two-day evaluation session. The conclusions and recommendations of this committee are being presented here. The summary of results is subdivided into four groups, reflecting the review process, which was conducted by the four subgroups of the panel

Group 1 comprises 23 departments dedicated to the basic biomedical sciences, and research oriented clinical departments. The panel noted that the classical disciplines of medicine have well been reorganized during recent years around the methodology and concepts of modern biomedical research. It was concluded that most departments are engaged in very original research, in which they are internationally highly visible, some of them leading their respective fields. Although the research work reviewed was mainly basic in nature outstanding clinical implications were observed, which are expected to redirect clinical practice in the future. The panel also identified a minority of research efforts for which reorientation and focusing was recommended.

Group 2 consists of 13 departments in clinical medicine. These departments are quite heterogeneous with respect to size and the subdivision of work between clinical educational and research duties. Research efforts include work on pathogenesis, pathophysiology, diagnosis, therapy and prognosis of diseases in the respective areas. The panel was impressed by the high academic motivation of the staff and by numerous important publications in internationally highly reputed journals. Furthermore, the panel was delighted to note fruitful collaborations with basic science departments within the University of Tokyo, but also with other facilities in

Japan and with prestigious academic institutions abroad. Note was taken of abundant grant money from outside sources, reflecting superb academic achievements. Regarding the overall organization of the clinical departments it was recognized that a better balance would be needed between the clinical and research staff with careful consideration of workloads regarding patient care and educational tasks. Such reorganisation should aim for adequate time for research activities in all areas. On the other hand research activities in some departments were found to cover too wide a range of topics. In such instances focusing and reorganisation is indicated.

Group 3 consists of 17 clinical departments centered around such fields as Surgery and Reproductive, Developmental and Aging Sciences. The panel was impressed by the fact that each department has succeeded over the past decade to successfully engage in basic as well as clinical research in spite of a 'terribly busy clinical practice' at the University Hospital. Research activities of the vast majority of departments were judged as excellent with respect to originality, productivity, scientific impact and clinical impact. In a few cases the panel pointed out that reorientation towards more specific research topics with strong clinical implications might be indicated for clinical research units, in which not only research but also clinical practice is conducted on a daily basis.

Group 4 comprises 15 departments in the fields of Social Medicine, Health Science and Nursing, and International Health. The panel concluded that, on the whole, the Graduate School and Faculty of Medicine at the University of Tokyo assumes a leading role in research in these fields in Japan. Some departments are regarded as world leaders in their respective disciplines. It was pointed out that the University of Tokyo has pioneered in Japan in establishing Biostatistics and Biomedical Ethics as newly required research fields in Health Research, and that professors of Nursing have taken a national lead in many aspects of their discipline. However, it was also recognized that the methods of the present review process may not be adequate to fully appreciate the quality of some of the departments in Health Sciences and Nursing. The panel noted that the International Health departments cover a wide range of medical and epidemiological topics of relevance both to the developed and developing world and concluded that the achievements apparent today clearly identify the University of Tokyo as a promising center of excellence in research on International Health. Closer inter-disciplinary and trans-disciplinary efforts will allow to further develop this role.

In summary it can be stated that the University of Tokyo Graduate School of Medicine combines world-class research in the most important biomedical research fields with excellent medical practice. It managed to make the transition in most disciplines from a solid-base traditional medical practice to research-oriented biomedicine, taking advantage of recent progress in molecular medicine and advanced biomedical engineering. The University of Tokyo Graduate School of Medicine is committed to complete this

process and is in a good position to do so, given the fact that it harbors world-class experts in many of the relevant disciplines.

The panel felt compelled to emphasize that the strength of the Medical School lies in an ideal balance between basic, knowledge-oriented research and applied or disease-oriented research - a balance, which emphasizes the importance of the former for the latter. Numerous examples were presented in which progress in basic research unexpectedly opened new insights into longstanding clinical problems, such as the discovery of genes responsible for malignant hyperthermia or for a hereditary neuropathy. It is in the very nature of knowledge-generating research that problem-solving insights happen unexpectedly and that they occur the more often the more knowledge-oriented research is allowed to follow its own path. The panel recommends that the University of Tokyo Graduate School of Medicine should continue to support its world-class biomedical research and this way build on its foundations for excellence in teaching and health care.

Addendum

The Process and Remit of the Review

Background: In view of pending structural reforms of the Japanese health care and university system and considering dramatic advances in knowledge in the biomedical sciences the Graduate school of Medicine of the University of Tokyo decided to conduct a review of its research efforts. The purpose of this exercise was supposed to be twofold: First, to provide guidance for the faculty in pending decisions on the further development of the School and second to document the international standing of the faculty within the rapidly changing international research scene. The review was intended to concentrate on research performance, with teaching and infrastructure issues covered only to the extent, which was considered necessary for optimal research conditions.

The Planning Committee: The review was prepared by a Planning Committee consisting of 6 senior faculty members and chaired by Prof. H. Okayama. The planning committee interacted with both the faculty and the review panel members by preparing the written materials (see below), formulating guidelines on the procedures of the review process, and to guarantee an efficient review process within the time available. Specifically, two panel members were assigned to each of the departments to be reviewed.

Materials and Documentation: Prior to the site visit panel members received two pieces of documentation besides general information regarding the University of Tokyo Graduate School of Medicine. One is a volume covering all of the departments with concise texts regarding their major research achievements, ongoing research, as well as future plans. In addition it included a reference list of up to 50 select scientific

publications and a listing of personnel as well as current grant support. The other is a collection of the ten most important publications and evaluation sheets on those departments, which had been assigned to a given panel member.

A schedule of the presentation and other events was mailed prior to the meeting. On-site panel members received information material on the University as a whole and on the Medical School. This included

- The March 2002 Edition of 'Tansei', The University of Tokyo Magazine
- the 2003 prospectus of the Faculty of Medicine/Graduate School of Medicine
- a site map

The review process: On the evening prior to the review, panel members met with the Dean of the Medical School and the Planning Committee for a decision of the procedures and aims of the review. One of the panel members, E. Neher, was designated as chairman of the panel. Furthermore, four additional members (Profs. M. Ito, T. Saruta, A. Kakita and Y. Aoki) were identified to cooperate with the chairman in the generation of the Review Summary Report by providing summary results of the four thematic subgroups (see page 19-37).

The main reviewing task was accomplished during the scientific presentations of the 68 departments, which were held in four parallel subgroups sessions on Monday, February 17th and Tuesday, February 18th, 2003. Each head of department was allowed 20 minutes of presentation time followed by up to 10 minutes of discussion.

The report: The evaluation sheets (two from independent panel members for each principal investigator) were made available to the chairman and to those responsible for the summary reports of the four subgroups. The reports were sent after the panel meeting to the chairman as the basis for this report. Drafts of the reports were circulated among the panel members and the final version was submitted to the Dean of the Medical School on 12th of March 2003.