

**Statement on
the Positron-Emission-Tomography (PET)
at university hospitals and extra-university research institutions**

Summary

In its most recent assessment of the state of PET in Germany, the Wissenschaftsrat concluded that a further poorly-defined, special interest driven expansion of the current infrastructure with seventeen PET centers, thirteen at universities and four at extra-university research institutions, together with fifteen Satellite-PET facilities is no longer meaningful. Compared to the evaluation in 1994, the clinical use of PET in oncology especially has markedly increased. In several areas of health care, PET has become a clinically important and now routinely employed diagnostic modality. In research, however, PET has not progressed to the same extent. Despite a highly developed instrumentation-related infrastructure for PET in Germany, even in comparison to that in other countries, PET has remained underutilized. Except for a small top group of internationally recognized PET centers, PET has not been used to its full potential as a tool for in vivo biochemical assays. This applies to PET research in both the basic and clinical sciences.

To more optimally utilize existing resources, the Wissenschaftsrat believes that a re-orientation and development of measures for evaluating existing and future PET facilities are needed. Both must be guided by scientific, clinical and structural criteria. These changes are recommended with the understanding that clinical PET, especially FDG-PET, will become integrated into standard health care delivery at major medical institutions and further, that Satellite-PET will be part of high-quality health care. In this regard, the Wissenschaftsrat appeals to the responsible health care fi-

nancial agencies for coverage of scientifically validated clinical indications. Further, the Wissenschaftsrat believes it reasonable that health care insurers fund those patient examinations that are performed under study protocols seeking to establish their clinical value.

Use of PET for primarily research, in the opinion of the Wissenschaftsrat, should be located at optimally equipped PET centers. These centers need to rely in the future more on and interact with the available clinical expertise including greater sharing of responsibilities. Allocation of PET center resources should not be confined to an individual institute or an academic department or division but to an organizational unit that coordinates activities of clinical and basic science departments and in which Nuclear Medicine, and according to local needs, basic science departments participate. Such units should be governed by standing rules, established in collaboration with academic departments and be directed toward the scientific mission, function and operation of the PET center. These research centers should be located at institutions with a well-defined research focus as demonstrated by member departments through commitment of financial resources and personnel and by initial research accomplishments. Participating academic departments are expected to financially share in the construction and equipment of PET centers.

Organizational requirements for PET research centers should also include

- Content based expertise as evidenced by an interdisciplinary research program (content and quality of research)
- Inter-relationships between basic science and clinical research
- Integration of nuclear chemistry (radiopharmacy) into the scientific concept
- Multi-modality approach and inclusion of complementary techniques
- Multidisciplinary oversight committee
- External advisory board, charged among other responsibilities with monitoring the quality of research
- Reasonable financial concept developed jointly by academic departments and clinical services that assures support of essential technical resources and of

permanent technical and scientific staffing and, more generally, of the overall research mission

- Emphasis on education and training of future scientists
- Networking of PET centers for information exchange and standardization of methodology (centers of competence for method development)
- National and international collaboration
- External research support, preferentially through peer-reviewed channels.

Financial support of PET centers should be consistent with these criteria. The Wissenschaftsrat further finds it necessary to establish measures of the quality of research and assurance of high scientific standards. Measures of quality should include past accomplishments and critical assessments of future research. Support of PET centers should be consistent with the research quality and productivity determined by internal and outside consultants. This applies also to support through academic departments and through extramural funding agencies. Their support should depend in addition to quality assurance, to staffing and research capabilities of the PET facility. Support for initiation of research and for operational needs should be considered to be limited in time.