

# NMTCB REPORT

Nancy M. Blosser, CNMT, Chairperson

The Nuclear Medicine Technology Certification Board (NMTCB) examination is a criterion referenced examination. The candidate examinee is judged against a base of job-related knowledge and skills rather than against the performance of other candidates. This is an important concept since it ensures that consistently highly qualified entry level technologists are certified rather than candidates being judged against one another and perhaps reducing the quality of the entry level technologist. For example, if candidates were judged against one another, all candidates taking a single examination might be qualified as technologists, but the scoring methods would force some to fail. The opposite could also occur—unqualified persons might pass an examination as a result of candidate scores being compared.

The NMTCB attempts to ensure that the examination material tests job-related knowledge and skills by performing validation studies at regular intervals. The results of the last validation task list were published in the December 1984 *JNMT*. Because technologist practice changes more rapidly than validation studies can be completed, the NMTCB reevaluated the 1984 task list and updated the examination matrix. These changes, published in the December 1986 *JNMT*, will be incorporated in the September 1987 NMTCB exam.

The next NMTCB validation study is scheduled for 1987. Why perform a validation study? It is an extensive process that looks at a list of tasks considered to be necessary knowledge and skills for entry level nuclear medicine technology. This validation process uses expert opinions provided by a wide variety of persons in the field of nuclear medicine, including technologists both newly certified and more experienced, physicians, physicists, educators, and administrators in nuclear medicine departments. The list of tasks is evaluated to ensure that they represent the state-of-the-art and to determine the criticality of the task, thus permitting a ranking of them into either critical or associated domain categories for the NMTCB examination matrix. Input from a wide cross-section of the field of nuclear medicine ensures the statistical validity of the examination. The NMTCB Directors have recently revised the task list to be used in the validation study forms distributed to participating individuals. As indicated in the last NMTCB Report, it is important for you to participate in the validation study when you receive the form.

How then is the information used in constructing an examination? The data gathered from the validation study are statistically processed by a psychometric service. The weighting of each task as to importance and performance by the majority of the profession, as well as other information, permits the examination matrix to be constructed. The weighted questions in each category (Radiation Protection and Radiopharmacy,

Instrumentation, Imaging, and Nonimaging) will then represent state-of-the-art practice and tasks relevant to entry-level practice. This task list can then be used by item writers to write items that will appear on future exams.

Item writing is the second matter I would like to address. As mentioned in the March 1987 issue of *JNMT*, by becoming an item writer for the NMTCB you can contribute your expertise to your profession. In addition, it helps to ensure continued high quality of entry level technologists joining the list of CNMTs. Item writing, however, is a job that takes some time and practice. Constructing high quality items is not just a matter of luck or chance. It requires some study in order to construct clear, concise, and job-related items.

The item writers' guide is provided to each person interested in participating in this process. The guide indicates that each question is to be a multiple choice question consisting of a stem (a question or incomplete statement), four incorrect responses, and one correct response. Items can be constructed in the correct answer form, the best answer form, or the negative answer form. Topics are supplied by the NMTCB subgroup examination chairmen to item writers after determining the area of expertise of each item writer. The item writer is also asked to write the item at a particular cognitive level. This can be a comprehension question—the most basic level involves recall, recognition, or understanding of facts on the part of the candidate. It might be at an application level, which requires comprehension plus the ability to apply knowledge to a new situation or identify operations necessary for a problem and then apply them. It could be at an analysis level, which requires both comprehension and application as well as analysis of a concept, principle, or idea. In addition, the guide discusses methods of constructing the stem and responses, proper language usage, abbreviations, bias introduction, inadvertent clues to the examinee, and punctuation. The skills and expertise gained by being an item writer certainly enhance one's own knowledge and skills. Should you wish to become an item writer, please notify the NMTCB office, Box 806, Tucker, GA 30084, or contact any of the current NMTCB Board of Directors.

The new members on the NMTCB this year are: Jacqueline Bridges, CNMT, Memphis, TN; Paul Cole, CNMT, Baltimore, MD; Mark Crosthwaite, CNMT, Louisville, KY; Michael Kusch, CNMT, Muskegon, MI; Maria Nagel, CNMT, Omaha, NE; and Charlene Rencher, CNMT, Detroit, MI. Their expertise, enthusiasm, and fresh perspectives will contribute to the continued success the Board has experienced over the past ten years. Thanks to everyone for their continued support and hard work to make this high quality certification process possible.