

NMTCB REPORT

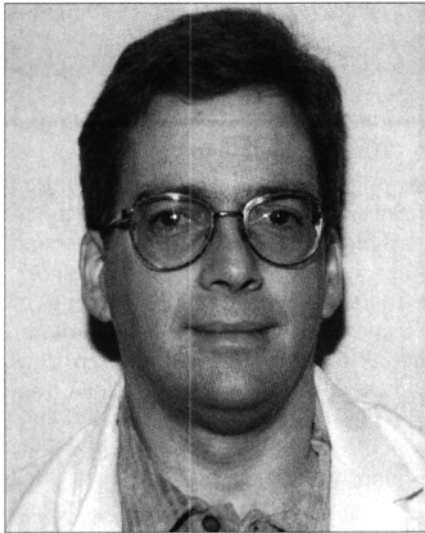
Daniel Leahey, CNMT, Chair

After returning from the SNM Annual Meeting in Toronto I am reinvigorated about all of the current trends in nuclear medicine technology. I also am reminded that there is a faithful core of hard-working people in the SNM that makes these meetings well worth our time.

Unfortunately, most of the work is not adequately acknowledged. So, to all of the physicians, technologists, pharmacists, physicists, scientists, nurses, administrators, vendors and everybody else who participated in making this and other SNM activities successful, thank you. Thank you for taking time to present a poster, a lecture and a continuing education session. Thank you for the year-round organizational work behind the scenes of the committees and councils. Thank you for all of the hours away from family and friends because you care enough about nuclear medicine to dedicate more than 40 hours a week for an employer.

Let me also thank all of the people who have continued to contribute items and images to the NMTCB. Those clear-based films and digital images (PC and MAC format) are making their way through the slow process of item development. People are often curious to know if the items they submitted were useful and made it to the CAT operational pool. There is actually no way to answer individual queries in a timely manner due to the processes involved in developing a new item.

Although items are sent to the NMTCB on a continuous basis throughout the year, they are not edited and submitted for pretesting on a continuous basis. The NMTCB board members receive exam data on item performance at regular intervals to determine what areas may need new items and to give those identified areas the highest priority. We contract with our exam administrator as to how many new items are moved into the CAT pretest pool and how many pretest items are moved into the opera-



tional pool, depending on item performance statistics and exam needs. Remember that CAT exam space is limited so items that do not contribute to exam performance must be improved or removed as soon as enough performance information has been gathered. Since any individual exam candidate only sees 75 to 90 items, there is no room for items that perform poorly.

You may be wondering why we are constantly developing new items if candidates only see 75 to 90 items per exam. After all, shouldn't all candidates be tested on similar material at a similar level of difficulty? Not exactly and this is explained in previous articles and newsletters both in *JNMT* as well as in NMTCB publications and workshops. The CAT model of item response theory allows for a smaller number of items per candidate. To do this well over a long period of time, however, there must be a strong reserve of high-quality items that contributes to the correct pass/fail decision. If you can forgive a sports analogy, we must have a strong bench to perform consistently throughout the season. These items need to perform well not for just two or three big matches per year, they must excel every day of the year, year after

year. Eventually, even the best items need a rest.

Some key factors involved in seeking new items include item exposure and item enemies. If an item performs particularly well in contributing to the correct pass/fail decision, the exam software will use that item more often than weaker items. In order to avoid overuse of any item, we can set the exposure level low, around 12% or 13%. For pretest items or edited items that need performance data before being accepted for the operational pool, we can adjust exposure up to 15–20%. Even then it takes months to accumulate data on any individual item's performance since that item must be seen by a large enough group of exam candidates to compare it to proven good performers. Even though the exam is available year round, there are still slower months when all items get less exposure so we need long-term totals to make our decisions about item development.

Item enemies are items that when seen at the same exam administration may present the exam-taker with a clue about another item. It is the job of the NMTCB board to identify these enemies so that the exam software will not present them together. This also can limit item exposure, contributing to the length of time needed to make a decision about an item's performance and use. Although new items can be written or rewritten continuously, they need to be compared to each other to identify enemies. This is a tedious and critical task best done when all NMTCB board members are together with the entire operational and pretest item pool available for comparison. This is done at regular intervals.

I hope this information makes it more understandable why it is nearly impossible to answer the question "How about those items I submitted?" Your work is traveling somewhere along the long, strange path of item development and is most appreciated. Thank you. You're doing great.