**RPC WEBPAGE NEWSLETTER**

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**RPC Implementation of TG-142 Guidelines**

In September 2009, over 2 years ago, the AAPM’s Therapy Physics Committee’s (TPC) Task Group 142 (TG-142) published its report on “Quality Assurance of Medical Accelerators”. The purpose of the TG-142 report is twofold. Firstly, it updates the recommendations in Table II of the TG-40 report and secondly, it provides quality assurance (QA) recommendations for ancillary delivery technologies not addressed in TG-40 such as asymmetric jaws, multileaf collimators and dynamic/virtual wedges. TG-142 not only accomplished its purpose, but it includes QA recommendations for imaging devices that are a part of the linear accelerator. The tables of recommendations are also subdivided into three types of delivery, non-IMRT, IMRT and SRS/SBRT, as they each may have different QA test requirements and/or tolerances.

In 2003, the RPC announced that it would begin to formally evaluate institutions participating in NCI funded clinical trials using the guidelines found in AAPM’s TG-40 QA report during their onsite dosimetry review visits. It is expected that the institution implement the QA guidelines as recommended by TG-40 in a reasonable fashion and appropriate manner if they participate in clinical trials.

In early 2011, the RPC began a pilot study of evaluating institutions during site visits using the TG-40 QA guidelines and then separately the TG-142 QA guidelines. We have not yet begun to formally implement the TG-142 QA guidelines in order to allow institutions time to prepare and change their QA practices. Our pilot study indicated that only a third of the institutions visited had attempted to implement the TG-142 guidelines supporting the fact that the majority of institutions have yet to implement TG-142. As a side note, even though our study was based on a small number of visited institutions, the rate of implementing TG-142 mimics that of implementing TG-51. It took nearly 10 years for greater than 90% of the institutions to implement TG-51.

The RPC has, upon the recommendation of the AAPM Therapy Physics Committee’s RPC adhoc review committee, decided not to delay implementing TG-142’s QA guidelines any longer. **The RPC will, as of January 1, 2012, begin to formally evaluate an institution’s QA program based on the TG-142 report guidelines and tolerances during their onsite dosimetry review visits to institutions participating in NCI funded clinical trials.**