**Purpose:** To determine whether institutions that participate in clinical trials are delivering IMRT more accurately than they were five years ago.

**Method and Materials:** Anthropomorphic head phantoms were mailed to institutions wishing to participate in national clinical trials using IMRT. The phantoms consisted of an imagable insert containing a primary PTV, a secondary PTV and an OAR. The insert also housed TLD and radiochromic film. The institutions imaged the phantom and planned and delivered an IMRT treatment as though it were a patient. The phantom was returned and the TLD and film were analyzed. The delivered dose distribution was compared with the institutions’ treatment plans and the results judged against 7% dose and 4 mm DTA criteria developed by the RPC and the RTOG.

**Results:** Between 2001 and 2007 the phantom was irradiated 475 times. The overall pass rate was 76%. The pass rate prior to 2005 was 70%. The pass rate for 2005 was 76% and the pass rates for 2006 and 2007 were 76% and 80% respectively.

**Conclusion:** Institutions interested in participating in NCI sponsored IMRT protocols are delivering IMRT more accurately than they were 4 years ago. One of the reasons for this is improved modeling capabilities in treatment planning systems. One of the most common treatment machine/planning system combinations has shown an improvement in pass rates since a new version of software became available. Other reasons could include improvements in the tools for patient-specific QA and improvements in the commissioning of IMRT systems. Though there has been improvement, there is still room for more. 20% of the irradiations are still failures. Adequate IMRT quality assurance and commissioning is essential now as always.

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