

Since its inception as a discipline in medicine, radiation oncology has had safety as its cornerstone. There are three separate areas of safety that exist within any department: patient, staff, and general public safety. Many national and international organizations have collaborated to provide a framework for a quality assurance program that will provide the backbone for safety in radiation oncology. As the complexity of treatments and delivery systems has increased, the ability of quality assurance (QA) programs to maintain safety in all three areas has been challenged.

Purpose:

QA programs need to be reassessed and adjusted continuously to provide the highest level of confidence.

Wikipedia defines a checklist as “a type of information job aid used to reduce failure by compensating for potential limits of human memory and attention”¹. This project produced checklists in our department which provide a focused approach to initial physics plan and weekly checks, dosimetry plan checks, and treatment machine resumption checks.

Methods:

Based on the approach used by the World Health Organization and Dr. Gawande on the appropriate types of checks to be used, our existing checklist were streamlined to include the most essential checks performed^{2,3}. Each of the three checklists has “Do-Confirm” and “Read-Do” checks.

Results:

The inception of the new physics plan and weekly checklist has assisted in discovering multiple types of potential errors. The errors included wrong prescription, no signed consent, IVD measurements not performed, wrong DRR points, and no request for conebeam imaging noted. The new dosimetry checklist has provided more relevant checks associated with more complex treatment plans. The treatment resumption checklist has created a virtual “Timeout” before a treatment is resumed.

Conclusions:

Checklist provide an important QA tool for overall safety by tailoring them to specific critical checks, and changing the culture by insisting all operators “work the checklist”.