Linac Machine Downtime Emergency Recovery Plan

The Problem

Prior to April 08 the Radiation Oncology Department had 3 treatment machines used to deliver radiation therapy (Linac1 with 6 MeV energy and Linac 2 and Linac 3 both with 6 and 10 MeV energy.) Because Linacs 2 and 3 were identical in energy, patients could receive treatment on either machine in the event of a technical issue rendering it off line. In April 08, Linac 2 went off line permanently and we were left with our Linac 1 and Linac 3 with different energy levels. In the event of a technical problem we had a back-up plan for the Linac 1 but not for the Linac 3. Because patients should receive daily consecutive treatments, an alternative treatment delivery plan was needed. Waltham, our satellite program, has a linac identical in energy levels to our Linac 3. Since this is offsite we needed to implement a process to identify appropriate patients and determine the logistics of transferring them to Waltham.

Aim/Goal

To clearly outline the appropriate order of actions necessary to ensure that the department functions in an efficient way, and acts in the best interest of the patient in the event that a LINAC becomes unavailable.

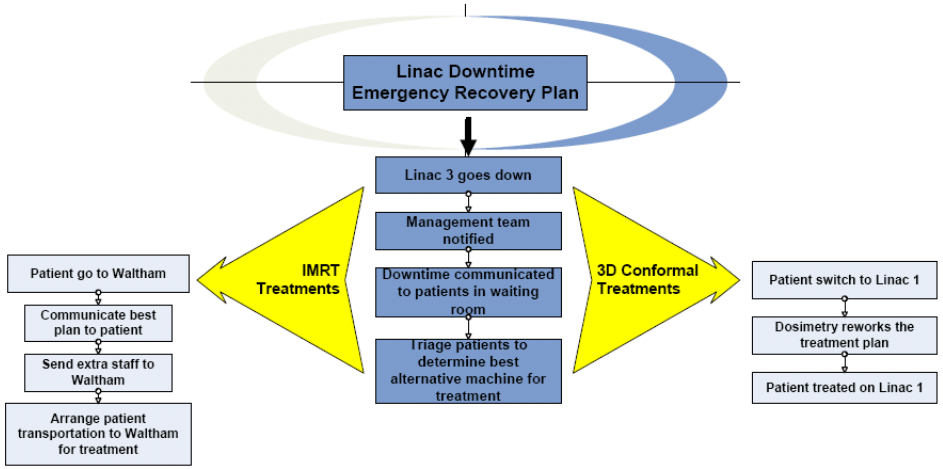
The Team

- MaryAnn Stevenson, MD Chief
- Stephanie Tarantino, Admin. Dir.
- JoAnn Barletta, Dir. Clin Ops
- Ed Holupka, Dir. of Physics
- Robert Morse, Dosimetry
- JoEllen Ross, Clin. Advisor
- Susie Topp, Rad. Therapist
- Aaron Vincenzio, Rad. Ther.

The Interventions

- Developed an early warning alert to notify of Linac down time.
- Created a script to communicate with patients in the waiting room and keep them up-to-date about the downtime and the possibility of sending them to Waltham in the event the machine downtime was extended.
- Tested the interchangeability of the patient's treatment plan and created an interface between the Boston and Waltham systems to transfer the plan.
- Developed a triage system to determine which patients could be transitioned to Linac 1 versus the Waltham Linac.
- Created a method to notify patients of above plan depending on patient treatment type.
- Determined a method of transporting patients to Waltham. If patient unable to go by private automobile a cab voucher would be issued.
- Planned staffing levels to accommodate the increased volume and extended hours in Waltham by shifting staff from Boston to Waltham.
- Developed a plan for the dosimetry/physics group to rework the patient treatment plans for those patients transferring to Linac 1.

The Results/Progress to Date



Lessons Learned

Some patients were opposed to traveling to Waltham. We realized that in these cases the physician was essential in communicating to their patients the clinical necessity of receiving their treatment in Waltham.

Next Steps/What Should Happen Next

Implement plan as needed and evaluate and amend the procedure as appropriate.

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