Name of Policy: Re-instating Clinical Use After Equipment Repairs **Policy Number**: 3364-134-112 **Approving Officer**: Chief Operating Officer, Clinical Service Chief, Radiation Oncology **Responsible Agent**: Technical Manager, Radiation Oncology **Scope**: The University of Toledo Medical Center Radiation Oncology	UTOLEDO HEALTH **Effective date:** **Original effective date**: 12/1/2017
Key words: Equipment repair, Qualified Medical Physicist, Maintenance, Radiation Oncology	

☐	New policy proposal	☐	Minor/technical revision of existing policy
☒	Major revision of existing policy	☐	Reaffirmation of existing policy

(A) Policy Statement

Radiation Oncology equipment repair, maintenance, and upgrades will be evaluated by a Qualified Medical Physicist (QMP), who is qualified in therapeutic medical physics,QMP prior to being clinically used for patient imaging or treatment.

(B) Purpose of Policy

To provide guidelines for bringing the linear accelerator, or PET/CT unit back online after any repair, maintenance, or software/hardware upgrades; and to provide reference for the determination of what repairs, maintenance, and upgrades require evaluation by a QMP.

(C) Procedure

1. After any repair, maintenance, or software/ hardware upgrade that may affect the output or performance of the linear accelerators, or quality of imaging equipment, a QMP must be notified to assess if any measurements or control tests need to be done prior to returning the device to clinical use. unit back online for clinical use. The QMP will evaluate the state of the machine, output, and other clinical and imaging parameters and/or verify constancy of the beam output or of imaging parameters before reaccepting the unit as clinically functional.
2. Determination of what types of repairs, maintenance, or upgrade require review by a QMP shall be made either:
A. in consultation with a QMP; or,
3364-134-112 Reinstating clinical use after equipment repairs 3 (three)
B. in reference to the procedures manual section, approved by a QMP, that identifying what types of repairs, maintenance, or upgrades do not require QMP evaluation.
3. If the repair, maintenance, or upgrade requires evaluation by a QMP, the QMP shall follow the procedures outlined in the department procedures manual on the process for returning the equipment to service.
2. 4. The department procedures manual shall clearly indicate how the QMP will document the return to service of the equipment when a problem arises with the linac, the therapist will initiate a call to the in-house. bio-med engineer and to the medical physicist to report the problem. A work order will be

generated for the manufacturer through bio-med.
3. An email will be generated and sent to a pre-defined group including manufacturer representative, physicists, therapists, engineers, and department manager, delineating the problem to keep everyone apprised of the machine status.
4. If the repair is minor and will be made by bio-med (such as changing the motor on an MLC leaf or light bulbs, etc.), the bio-med engineer will report his assessment and repairs to a physicist which will in turn bring the machine back online. The physicist will notify therapists when the machine is ready to return to service for clinical use. After hours, the QMP will contact either the lead therapist or department manager via "after hours" numbers provided or by written communication at the console.
5. If the repair requires a Varian engineer's time on the machine, the engineer, upon checking the status of the accelerator and determining what repairs are required, will contact the physicist to discuss plans for measurement/verification of the output parameters after repair.
6. If the physicist has to make any measurement prior to clinical use of the machine, the accelerator will not go online for clinical use until it is cleared by the physicist. The physicist will notify the therapists when the machine is cleared to return to service.
7. Field service reports will be copied to bio-med, physics, and department manager.
8. The above procedure applies to any repair; maintenance, including PM; or upgrade that may affect the machine parameters such as beam output, flatness, symmetry, or anything that may affect patient dose.
9. Preventative maintenance on the accelerator is scheduled through Varian and performed as per the manufacturer's requirement. Manufacturer's representatives notify bio-med and physicist of scheduled PM.

Approved by: _____ Mersiha Hadziahmetovic MD Clinical Service Chief, Radiation Oncology _____ Date _____ Russell Smith Chief Operating Officer _____ Date *Review/Revision Completed by:* *Technical Manager*	**Policies Superseded by This Policy:** Initial effective date: 09/05/1980 Review/Revision Date: 12/1/2017 12/1/2020 Next review date: