MACHINE PERFORMANCE CHECK*

Daily QA is an essential requirement of modern radiotherapy. Over the years accelerators and treatment techniques have become more complex and precise, and therefore it is getting increasingly important to check if your accelerator is within specification.

Morning checks can be time-consuming and use up a lot of machine time and resources. In addition, QA records have to be kept manually and are typically scattered across different databases.

Varian is proud to introduce Machine Performance Check (MPC), an integrated self-check tool that takes advantage of the advanced automation and intelligence of your TrueBeam™ system. The application is designed for fast and reliable daily system testing, before routine treatments start. The machine checks can be performed in less than 5 minutes by the operator. There is no need for multiple measuring equipment or phantoms. Just install the Varian Isocal phantom on the TrueBeam couch and one press on the beam-on button is all it takes, TrueBeam will do the rest.

A combination of high resolution MV and kV images will be acquired for different gantry, collimator and couch positions. Those images will be instantaneously analyzed by TrueBeam and the operator will get clear pass/fail indicators, all within 5 minutes.

*MPC is an addition to the existing QA program of a hospital and must not replace any necessary QA checks.
The following machine specifications are checked:

**Geometry Checks**
- Treatment isocenter size/location
- Coincidence between treatment isocenter and MV & kV imaging isocenters
- Collimator rotation Offset
- Gantry positioning accuracy
- Couch position accuracy up to 6 Degrees of Freedom
- MLC leaf position for inner leaves
- Jaws position accuracy

**Beam Checks**
- Beam output constancy check
- Beam profile constancy check
- Beam center shift

All results are visualized in detail in the review workspace, where it’s possible to analyze and trend the results of each test. In this way it's easier to trouble shoot issues on the accelerator and plan preventive recalibration.
MPC has a capability to speed up and automate the morning checks of your TrueBeam. It also comes with a review workspace where a more detailed analysis is possible and trends can be identified.
Disclaimer and Safety Statement

Intended Use Summary
Varian Medical Systems' linear accelerators are intended to provide stereotactic radiosurgery and precision radiotherapy for lesions, tumors, and conditions anywhere in the body where radiation treatment is indicated.

Important Safety Information
Radiation treatments may cause side effects that can vary depending on the part of the body being treated. The most frequent ones are typically temporary and may include, but are not limited to, irritation to the respiratory, digestive, urinary or reproductive systems, fatigue, nausea, skin irritation, and hair loss. In some patients, they can be severe. Treatment sessions may vary in complexity and time. Radiation treatment is not appropriate for all cancers.

Medical Advice Disclaimer
Varian as a medical device manufacturer cannot and does not recommend specific treatment approaches. Individual treatment results may vary.

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