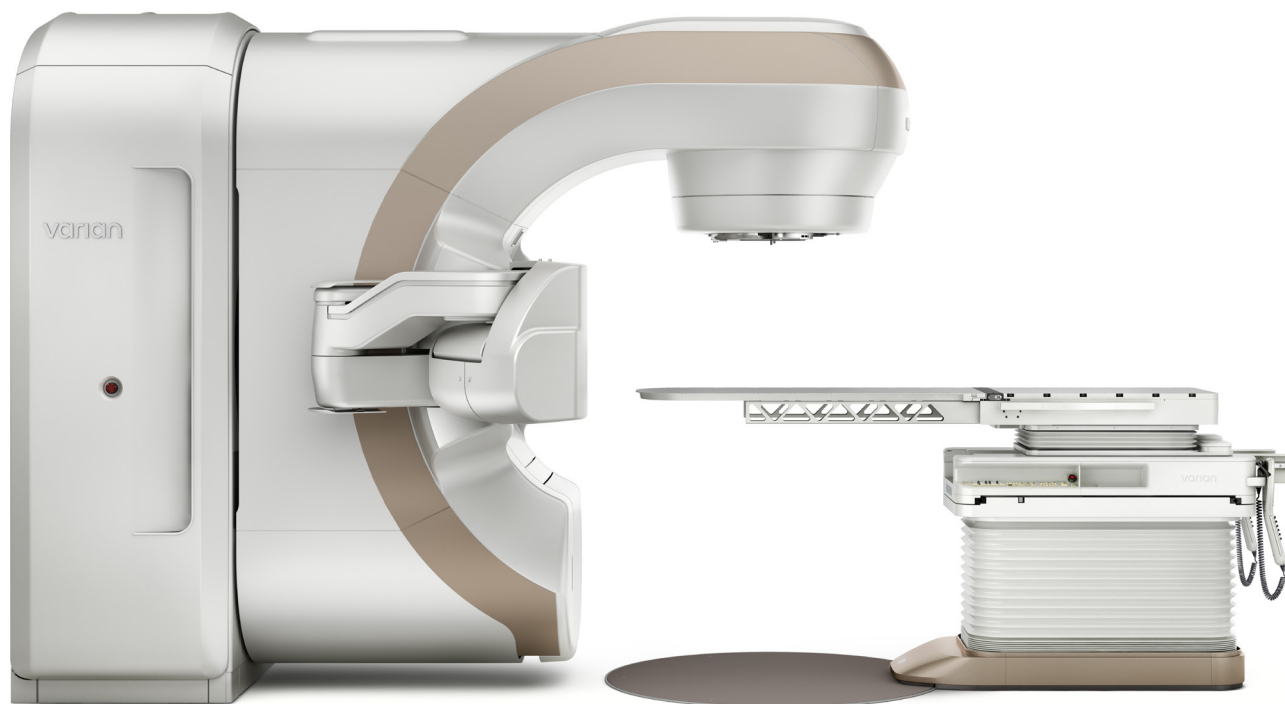


TrueBeam System version 2.7

Next generation capabilities



As radiotherapy advances, precise targeting becomes even more important. The TrueBeam[®] system version 2.7 adds to the previously available optional advanced image-guided radiation therapy (IGRT) capabilities and delivers new tools to further assist with challenging cases where motion can make imaging and accurate targeting difficult. Tools such as automated gated CBCT to reduce motion artifacts for easier soft tissue visualization, 4D online CBCT visualization and improved breath-hold workflows may improve confidence levels while managing motion when delivering high quality treatments.

Improvements to sequential mode

There is now a fast sequential mode-up for fields at the same energy, reducing the time between fields for the machine to prepare for treatment resulting in reduced treatment time.

CBCT custom modes

When custom CBCT modes with the same names are generated on multiple TrueBeam platform accelerators, these custom modes will now be selected automatically when patients are transferred from one accelerator to another.

Simplified kV anatomy templates

kV anatomy template is simplified so that operators do not have to select the image orientation (e.g., anteroposterior (AP), lateral) for the acquisition. The imaging system automatically adjusts the kV X-ray settings as a function of gantry angle. This simplifies acquisition of kV image pairs. This is also useful for triggered imaging, because the imaging system will adjust the kV X-ray settings as a function of gantry angle during rotational treatments, yielding better exposed radiographs. The new templates also allow operators to select the foil filters and bow-tie filters for the kV image acquisition. These selections allow operators to harden the kV beam for applications such as tangential breast imaging or imaging of the thorax.

Faster arm deployment

The speed of arm deployment has increased. For example, the time for the kV imaging system to move from the mid to the extended position has been reduced from 19 seconds to 13 seconds.

Improved support for multiple plans sharing one isocenter

Fields are now grouped by isocenter and labelled and numbered according to the same isocenter ID from planning. Imaging shifts are applied to all fields that contain the same isocenter ID, including fields across multiple plans.

Radiation dose structured report

TrueBeam creates a radiation structured dose report (RDSR) for all kV CBCT acquisitions in accordance with IEC 60601-2-68.

Sign-off for respiratory gating

When adjusting gating thresholds, users will only be asked to enter their passwords one time during the treatment session.

Changes in the respiratory gating user Interface

The numerical values of the gating thresholds are now displayed. The length of the waveform display has increased, replacing the space used by the "Patient Motion" indicator, which is no longer displayed.

Manual double exposure with blocks

A manual double exposure capability has been added to the system. This is the acquisition of two single MV images attached to the same field (e.g., a "treatment port" MV image "before" and an "open" MV image "after"). The operator can then manually initiate field edge detection to generate a double exposure MV image.

"Highlight" image display filter

An additional 2D image display filter called the "Highlight" image display filter has been added to the system. The highlight filter locally adapts the brightness of an image as well as applies some image sharpening.

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.



Matching environment

The start location for the 3D Match has changed and is now at the treatment isocenter to help reduce adjustments and save time. Previously, the center of the planning CT was used as the start location for the orthogonal views. This often meant large adjustments of the orthogonal views were necessary before starting to match.

Field outline tool

When reviewing CBCT images, a field outline tool can be activated in the match environment. This superimposes an outline of the treatment field onto the acquired CBCT images, which can be used to verify patient position, which can be particularly useful for breast treatment. The tool is only active for static gantry intensity-modulated radiation therapy (IMRT) fields.

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