Select “Research/Developer Mode” from the major mode screen to begin using capabilities such as fully dynamic MV and kV beams for non-clinical experimentation, including:

- Motion on any axis (gantry, collimator, couch) with simultaneous irradiation
- Fully dynamic and/or step-and-shoot intensity modulation
- Unlimited, simultaneous MV and kV imaging
- Preprogrammed variable MU between control points (i.e., variable dose rate)

Developer Mode is an optional license. It does not require any modification to the TrueBeam system, nor does it have any effect on its clinical performance.

**Optimizing geometry for superior treatment angles**

Developer Mode allows users to move couch, gantry and collimator simultaneously to create any incident beam trajectory. As a result, it opens the door for users to explore new approaches and complex sequences that can be automated for dynamic delivery through Developer Mode.

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**DEVELOPER MODE FOR RESEARCH:
THE TRUEBEAM LABORATORY FOR INNOVATORS**

The Developer Mode option for the TrueBeam™ system and the TrueBeam™ STx system gives users access to non-clinical treatment techniques that go beyond what is available in the systems’ clinical modes. This expanded access is designed to enable clinicians and physicists to create and experiment with novel treatment and imaging techniques in a research environment. Advanced manipulation of mechanical and dose axes puts the dynamic beam, imaging and gating features of TrueBeam at your fingertips.

*Developer Mode is not for use on humans. Treatment decisions should not be made based on data derived in Developer Mode.*
**SetBeam XML: created by experts for experts**

Developer Mode gives you direct access to TrueBeam’s complete native language, a straightforward XML dialect we call SetBeam XML. Developed by Varian engineers, it is your key to complex and novel research possibilities like these:

- Define and deliver dynamic beams with arbitrary motion trajectories in dose-position space for precisely controlled, predetermined variable dose rate, and simultaneous motion on potentially all accelerator axes
- Program the acquisition of a variety of single images and/or start-and-stop several continuous imaging sequences at any predefined arbitrary point in the complex beam and motion trajectory
- Enable the respiratory gating signal to hold and resume beam delivery (i.e., MV beam and motions) and/or kV imaging
- Simplify and automate QA procedures. Reduce time and effort required for monthly and annual calibration through the use of preprogrammed scripts and dynamic deliveries
- And, potentially, exchange techniques with colleagues via easily shared example files

**A wall between experiments and operations**

Developer Mode is designed so that it doesn’t affect TrueBeam’s normal clinical operations. Its user interface won’t permit modifications to any system configuration, calibration or operational parameters involved in clinical operations.

**Support as robust as Developer Mode’s possibilities**

Varian supports an array of research ambitions with generous resources, including:

- A library of XML example files, including QA and imaging capabilities
- Documentation and scripts to examine the TrueBeam Trajectory Log files
- Updates to Developer Mode capabilities
- Updates to documentation on the SetBeam XML dialect

- Release notes on new research products and features, plus SetBeam XML changes or additions
- List of frequently asked questions
- Dedicated email access to a Varian expert who will provide consultation and assistance

**A new link between innovative clinicians and physicists**

With Developer Mode, clinicians and physicists now have an efficient and effective means to collaborate on future treatment and imaging advances. Developer Mode is already in use at leading research institutions worldwide.

Because it allows a broad range of experimentation in a non-clinical mode, Developer Mode gives inspiration to today’s innovators as they create the treatment techniques of tomorrow.