

Quality assurance of robotic radiosurgery systems requires extensive analysis of end-to-end treatment tests, small aperture sizes, and daily repeatability verification.

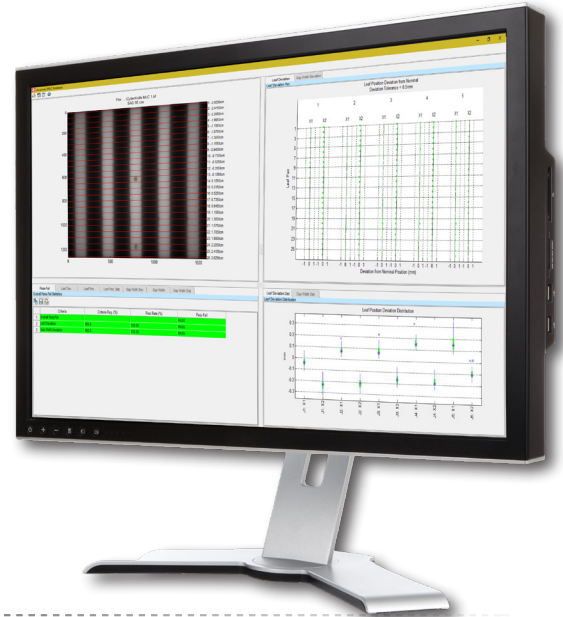
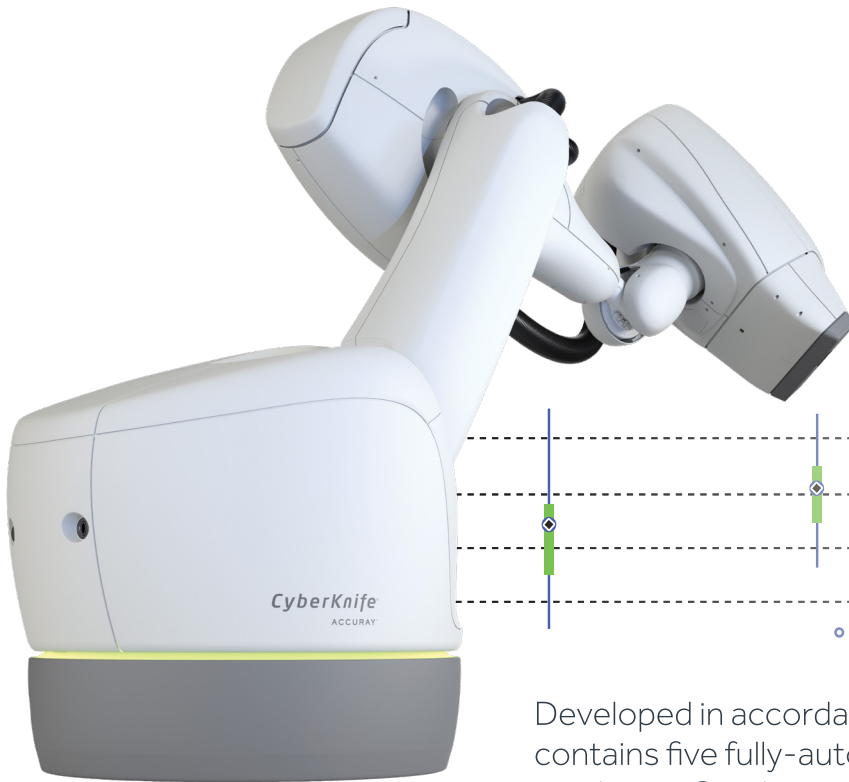
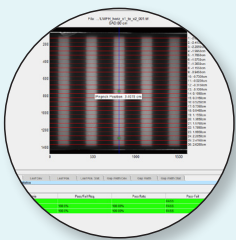


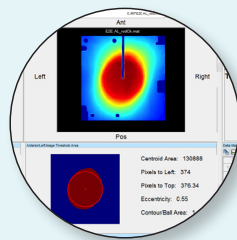
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Developed in accordance with TG-135, RIT G135 software contains five fully-automated QA tests for CyberKnife® machines. Combining a user-friendly interface with automated film detection algorithms, the software eliminates the need for manual manipulation or alignment of images and reduces the time required to perform these tests.

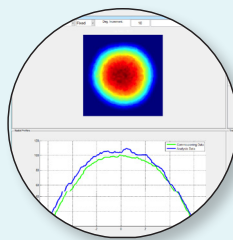
AUTOMATED QA TESTS



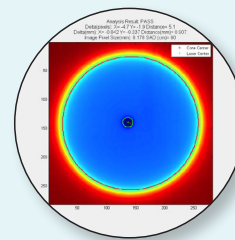
**FULLY
AUTOMATED
M6 MLC TEST**



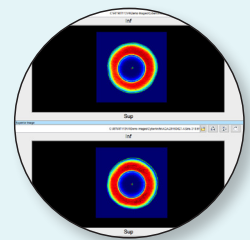
**END-TO-END TEST
FOR 3 BALL CUBE
PHANTOMS**



**AQA
TEST**



**IRIS
TEST**

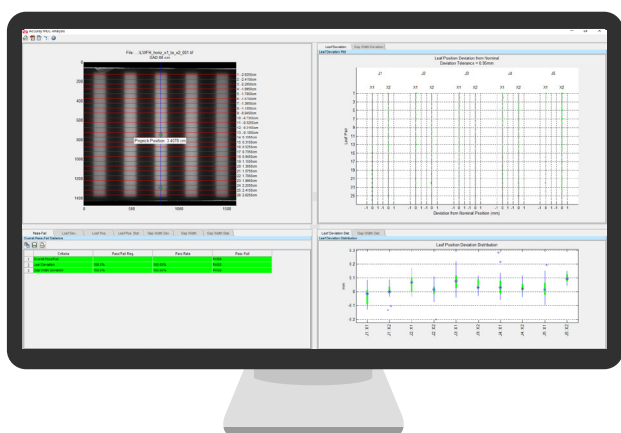


**LASER
COINCIDENCE
TEST**

AUTOMATED QA TESTS

TG-135 recommends eight tests for daily QA, thirteen tests for monthly QA, and eleven tests (plus the daily and monthly tests) for annual QA.

FULLY AUTOMATED M6 MLC TEST

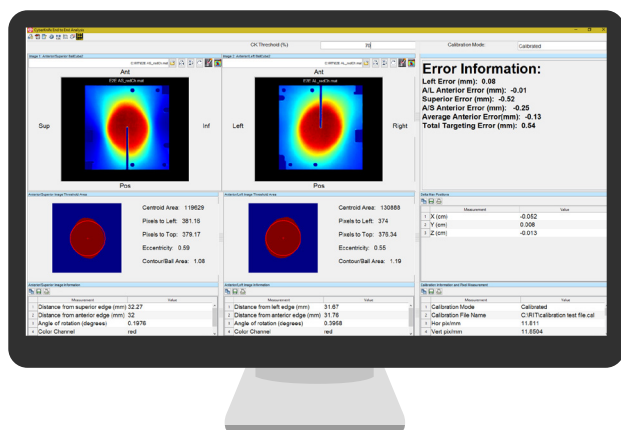


RITG135's fully-automated "Garden Fence" MLC test has the ability to greatly increase the efficiency of MLC tests for CyberKnife® units with a M6 multi-leaf collimator.

Although MLC tests are not specified in TG-135, as this was not an option for CyberKnife® machines when the task group report was developed, the most significant advantage of this test is in its automated processing. Rather than using multiple products from different vendors, RITG135 consolidates your MLC tests into a single software package.

RITG135 will (1) automatically crop the image; (2) automatically align the image; (3) perform automatic orientation of any images that are rotated or flipped; (4) automatically detect any leaves, eliminating any need for template files; and (5) perform the analysis. According to experts at Accuray®, you can save an average of 30 minutes per film with RITG135 software.

END-TO-END TEST

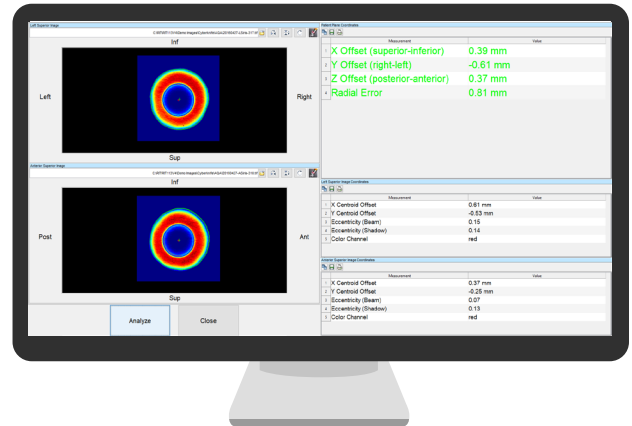


The End-To-End (E2E) test verifies the mechanical accuracy of the robot, the tracking method, and the dose. RITG135 software handles the Ball Cube, Ball Cube 2, and Mini-Ball Cube phantoms to perform this test. Individual films or "three-in-one" (Axial, Sagittal, and background in a single scanned image) are also used.

Alignment and rotation for Ball Cube 2 images is performed automatically, using cutouts on the film. Additionally, RITG135 software can use dose-calibrated images for the utmost accuracy.

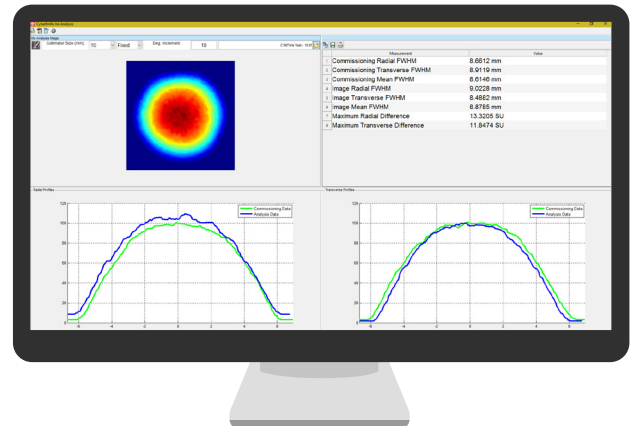
AQA TEST

The AQA test is an isocentric-targeting accuracy test that can be used with calibrated or uncalibrated images. TG-135 recommends that this test be performed daily. RITG135's AQA test generates a significant amount of daily data that can be tracked and trended in the RITtrend™ statistical database.



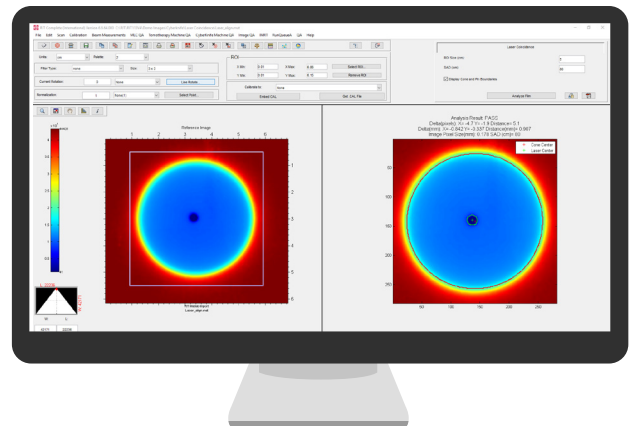
IRIS TEST

The CyberKnife® machine has fixed collimators and a IRIS collimator. RITG135 software can compare commissioning IRIS or fixed collimator measurements (baseline) to current measurements for each IRIS or collimator size. On a monthly basis, measured values are compared to baseline values to perform QA on the IRIS size and beam characteristics of small fields.



LASER COINCIDENCE TEST

The Laser Coincidence test uses film or a CR plate to check the coincidence of the center of an IRIS or fixed collimator with the CyberKnife® central axis laser.



RITtrend™ STATISTICAL DATABASE ANALYSIS



The RITtrend™ SQL database and the Multi-Source data manager enable tracking and trending of all measurements and other parameters (safety interlocks, accelerator outputs, etc.) required in the TG-135 report.

Data is analyzed using statistical process control, customizable reports are generated, and alerts may be set for warning and failure levels. The alerts may be enabled as email notifications, allowing you to immediately view significant changes in data or measurements.



UPGRADE YOUR CYBERKNIFE® QA

If you are currently using RITG142 software to perform QA measurements on your CyberKnife® machine, consider upgrading to RITG135. This package was specifically-engineered to perform CyberKnife® QA in accordance with TG-135, and was developed in partnership Accuray®.

RITG135 is your best option for comprehensive and independent verification of your CyberKnife® machine. The software allows you to consolidate your MLC tests into one, single software package. The software automatically detects any leaves, eliminating the need for leaf templates. The automated processing features included in RITG135 help you save time and maximize the efficiency of your QA measurements.

Optimize your CyberKnife® investment with the precision and efficiency of RITG135. Contact us today to get started.



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AUTOMATED IMAGE FILL FOR ANTHROPOMORPHIC PHANTOM QA

RIT's automated image fill routine is included in the RIT Complete software package. Use this function to automatically correct and fill any holes or cutouts in the image file. Perform patient QA with an anthropomorphic phantom for both calibrated and uncalibrated images. For users requiring both Patient and Machine QA, upgrade your product to:

RIT Complete

CyberKnife® is a registered trademark of Accuray, Inc.