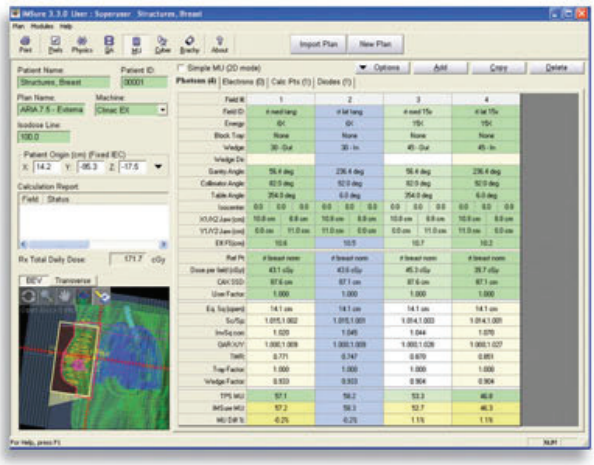
FAST, PRECISE

Unprecedented accuracy from the patented "3-Source Model" algorithm, easy standard plan MU checks, and uniquely comparative IMRT Plan QA — no film, no phantom, no linac time required

IMSure QA Software



INTUITIVE MU DOSE CALCULATIONS

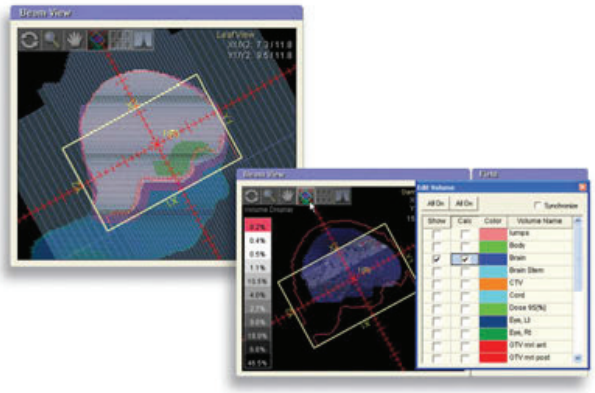
Automate hand calculations of conventional plans or create simple plans with just a few clicks including support for Varian Enhanced Dynamic Wedge, Elekta Motorized Wedge and Siemens Virtual Wedge. A single screen for inputs, outputs and field-to-field comparisons offers quick review and easy editing of plans.

ACCURATE IMRT AND RapidArc™ DOSE VERIFICATIONS

The patented Stanford University "3-Source Model" results in extremely accurate dose calculations for segmented treatments such as IMRT, RapidArc™, VMAT, or field-in-field plans.

IMPROVED .DECIMAL COMPENSATOR PLAN VERIFICATIONS

Utilizing an improved convolution algorithm, IMSure models the scatter, beam hardening effects and field-size dependencies to calculate a true compensator factor for even the most complex filters giving incredibly accurate results.



STRUCTURE SPECIFIC IN-DEPTH IMRT PATIENT QA

Imported treatment planning system fluence is directly compared to independently calculated fluence in IMSure. Import patient contours and specify regions of interest for structure specific analysis. Use any of six different methods of comparison including gamma map comparisons, difference maps, a patented correlation coefficient, and histograms.

CYBERKNIFE PLAN VERIFICATIONS

Fast and easy verification of plan monitor units (MU) and dose for both composite and per projection analysis.

Features

Validated Results

- IMSure QA is proven as effective as measurements and TPS[1,2]
- The performance of IMSure QA Software has been verified in multiple publications

Intuitive MU Dose Calculations

- Check MU or specific-point dose quickly and easily
- Support for hard wedges, Varian Enhanced Dynamic Wedge, Elekta Motorized (Omni) Wedge and Siemens Virtual Wedge
- Patient contours can be imported to assist in visualization or to account for flash (missing tissue)
- A single screen for inputs, outputs, and field-to-field comparisons offers quick review and easy editing of plans
- Block editor for quickly checking effects of changes in field size
- Extensive diode support for in-vivo dose checking
- Unparalleled accuracy for calculating plans that utilize .decimal compensators

Accurate Dose Calculations of IMRT

- Multiple dose calculation points, including off axis calculations
- Calculation of RapidArc™ or other VMAT plans
- Patented 3-Source Model more accurately models high-gradient / low-dose regions of small fields common in IMRT
- All linac parameters such as photon source, head scatter from primary collimators and flattening filters, and leakage from MLC leaves and jaws are accurately modeled

For segmented plans verify the whole field, not just a single point

- Calculated fluence compares directly with the TPS predicted fluence resulting in accurate and in-depth patient plan QA analysis
- Import patient contours and specify regions of interest for structure specific analysis
- Compare to either the true patient plan or a phantom plan
- Compares plans in six different ways, including difference maps, gamma maps, and histograms
- Compares dose at one or multiple 3-dimensional points on a field-to-field basis as well as composite dose

Cyberknife plan verification

- Composite and per projection verification of plan monitor units (MU) and dose

Simple Physics Interface and Reporting

- Supports unlimited machines, energies, treatment planning systems and record & verify systems
- Completely characterizes output aspects from linear accelerator for simulated dose delivery and easily imports TMR, OF, OCR, PDD (electrons), cone factor (electrons), MLC, jaws, wedges including dynamic wedge angles, and head scatter sources
- Easily imports TPS fluence maps, MLC leaf sequence files in DICOM RT and RTP format, and provides graphical representation of beam data
- Provides hard copy output for billing and patient documentation and electronic output for paperless record keeping (in U.S. use CPT Code 77300)

IMSure QA Software (REF 91326) SPECIFICATIONS

OPERATING SYSTEM	Windows® 2000, Windows Vista®, Windows® XP, Windows® 7
PROCESSOR	Intel® or AMD®, 600 MHz or greater
MEMORY	256 MB or greater
HARD DRIVE	50 MB or greater
SCREEN RESOLUTION	1024 x 768 or higher
CD–ROM DRIVE	2X speed or greater
PRODUCT STANDARDS	Designed to meet IEC 60601-1-4 CE

PERFORMANCE VALIDATION

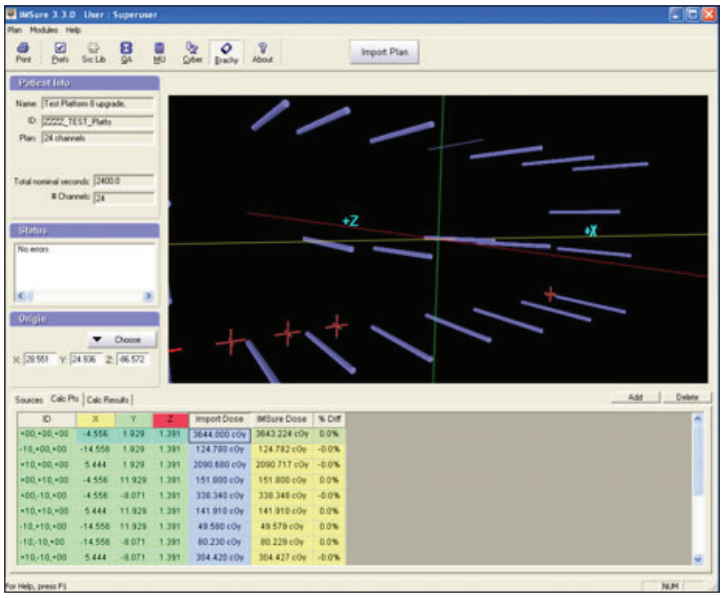
1. Parminder S. Basran and Milton K. Woo, "An analysis of tolerance levels in IMRT quality assurance procedures," **Med. Phys.** 35, 2300 (2008), DOI:10.1118/1.2919075
2. Todd Pawlicki, Sua Yoo, et al, "Moving from IMRT QA measurements toward independent computer calculations using control charts," **Radiotherapy and Oncology** 89 (2008) 330–337
3. Y. Yang, L. Xing, J. G. Li, J. Palta, Y. Chen, Gary Luxton, A. Boyer, "Independent dosimetric calculation with inclusion of head scatter and MLC transmission for IMRT," **Med. Phys.** 30 (11), November 2003.
4. Yong Yang, Lei Xing, Arthur L. Boyer, Yixin Song, Yimin Hu, "A three-source model for the calculation of head scatter factors," **Med. Phys.** 29 (9), September 2002.
5. L .Xing, Y. Chen, G. Luxton, J. G. Li and A. L. Boyer, "Monitor unit calculation for an intensity modulated photon field by a simple scatter-summation algorithm," **Phys. Med. Biol.** 45 (2000) N1–N7.
6. Lei Xing and Jonathan G. Li, "Computer verification of fluence map for intensity modulated radiation therapy," **Med. Phys.** 27 (9), September 2000.
7. Daniel A. Low, William B. Harms, Sasa Mutic, and James A. Purdy, "A technique for the quantitative evaluation of dose distributions," **Med. Phys.** 25 (5), May 1998

ORDERING INFORMATION

IMSure QA Software REF 91326

FAST, EASY BRACHY QA

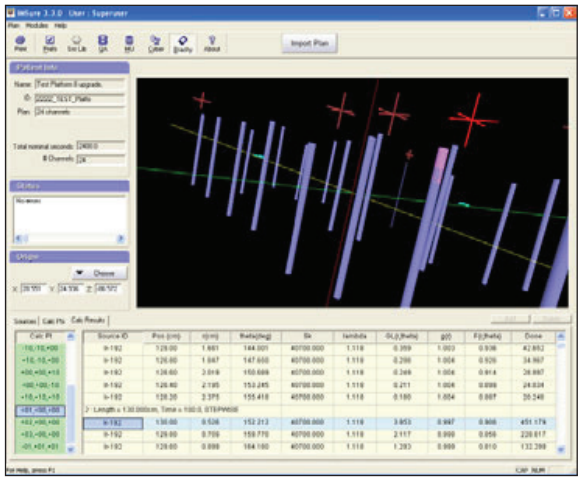
Perform second checks of HDR, LDR, and permanent implant plans on an intuitive, single page interface



IMSure QA Software BRACHYTHERAPY

FAST, ACCURATE BRACHYTHERAPY PLAN CHECKS

Imports DICOM-RT plan files from treatment planning systems and utilizes the TG-43 formulism for dose calculations (Comparison to plan is in percentage difference).



VISUALIZE SOURCES IN 3D

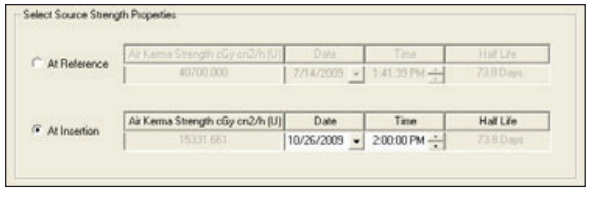
View calculation reference points and sources, including catheters and dwell positions, in three dimensions with keyboard shortcuts for viewing orthogonal, sagittal, transverse and coronal planes.

IN-DEPTH ANALYSIS OF EACH DWELL POSITION

Choose the calculation point and dwell position of interest and each will be highlighted in the 3D view. The dose contribution to the chosen calculation point and corresponding dwell position is shown along with the factors used in the calculation enabling easy analysis of every facet of the plan.

AUTOMATIC DECAY OF SOURCE STRENGTH

Choose whether to calculate the dose based on the reference source strength stored in the source library or at the source strength at any date and time specified, including the time of implantation.



Features

Accurate Dose Calculations

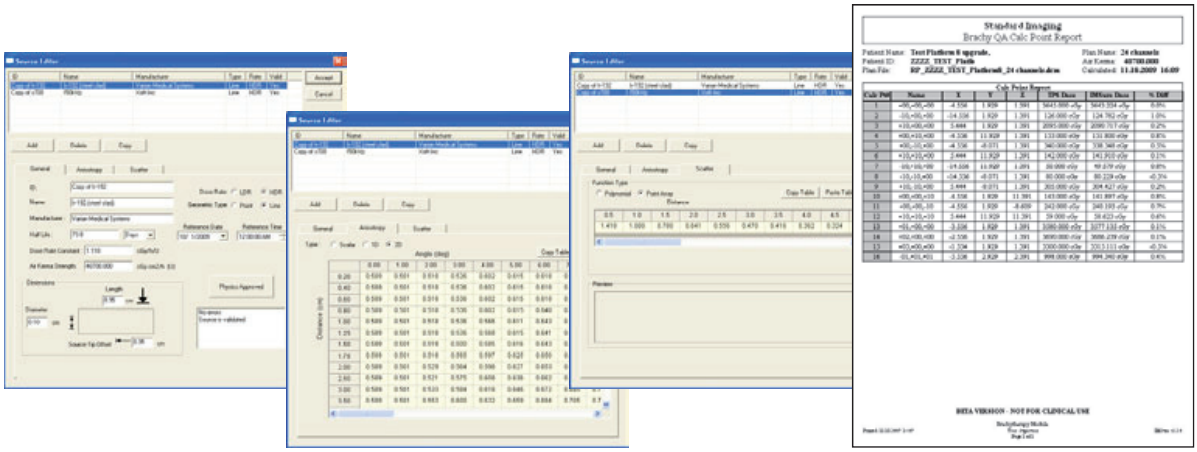
- Utilizes TG-43 formulism for dose calculations
- Calculate up to 30 points simultaneously
- Calculate at reference source strength or automatically decay source strength to a user specified date and time
- In-depth calculation results provide dose contributions to each calculation point from any individual dwell position
- Choose summary and detailed reports, according to preferences, and export to Excel® or PDF

Integrated Source Library

- Easily create new LDR or HDR point or line source types
- Preset with 192IR HDR and Xoft Accent sources
- Use either scalar, 1D, or 2D tables for anisotropy
- Use either polynomial fit or 1D tables for radial dose function (scatter)

3D Display

- Visualize each catheter and dwell position
- Rotate and zoom view
- Keyboard shortcuts for standard views: Orthogonal, Sagittal, Coronal and Transverse



IMSure QA Software Brachytherapy SPECIFICATIONS

OPERATING SYSTEM	Microsoft® Windows® 2000 Microsoft® Windows® XP
PROCESSOR	Intel® or AMD®, 600 MHz or greater
MEMORY	256 MB or greater
HARD DRIVE	50 MB or greater
SCREEN RESOLUTION	1024 x 768 or higher
CD–ROM DRIVE	2X speed or greater
PRODUCT STANDARDS	Designed to meet IEC 60601-1-4 CE

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