ClearCalc

INDEPENDENT CALCULATION SOFTWARE

Intelligent Automation in Radiation Oncology

RAD formation

Intelligent secondary plan validation.

ClearCalc is a secondary calculation software that independently verifies the accuracy of your treatment plan dose calculation. With support for photons, electrons, and brachytherapy, results are quickly calculated and displayed on a user-friendly interface.

ClearCalc can be accessed as a Varian Eclipse Treatment Planning System (TPS) scripting plugin via ClearCheck or as a Windows executable application, allowing full access for all users.

For clinicians. By clinicians.

ClearCalc was developed by physicists as an independent secondary monitor unit (MU) calculation to instantly verify treatment plan accuracy. With seamless ClearCheck integration, users obtain results without launching separate software or performing DICOM exports. Results can be automatically appended to the ClearCheck final plan report, making documentation needs effortless.

Have confidence in your calculations and automate your plan evaluation workflow.

ClearCalc

Rest assured knowing your plan calculations are accurate.

Multi-Modality Compatibility

Eclipse Integration

Tissue Heterogeneity Correction

Automated Calculation Point Selector

Intuitive User Interface

Direct ClearCheck Reporting

Direct Eclipse Integration via ClearCheck

With the option for direct integration with Eclipse and ClearCheck, ClearCalc takes automating plan evaluation one step further by providing instant processing of secondary plan calculations and eliminating the hassle of importing or exporting DICOM plans. ClearCalc results can be automatically added to the ClearCheck report for the final plan printout with a single click.

For users without Eclipse, there is a standalone option that accepts DICOM plan files from multiple treatment planning systems.

ClearCalc Secondary Calculation

Test, Patient (99999999a)

Birthdate: 11/22/2019
Sex: Male
Hospital: Radformation
Eclipse Version: 15.5.11

Course: C1
Plan: ProstateInit
Dose: 180cGy × 25 = 4500cGy
Prescribed Percentage 100%
100.00% covers 96.00% of Target Volume
(Value: 106.175%)
Status: PlanningApproved

Photon Properties

TPS Machine: Eclipse CAP

ClearCalc Machine: Eclipse CAP

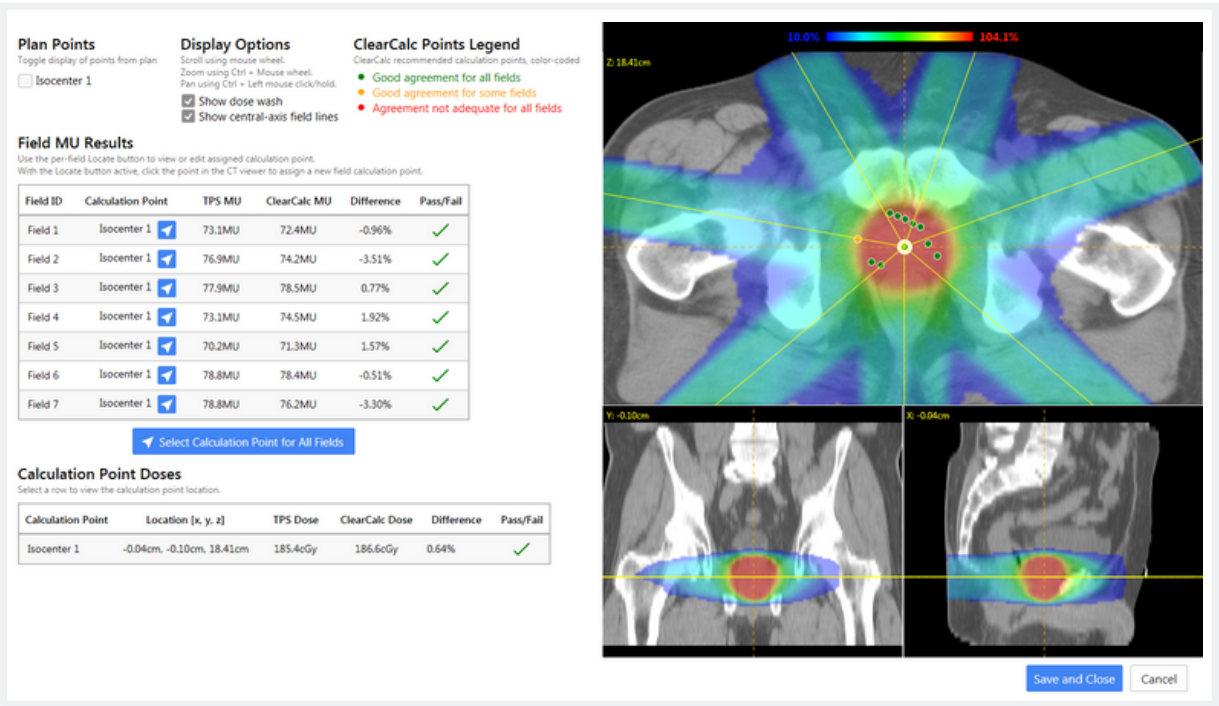
MU Results

Field ID	Calculation Point	TPS MU	ClearCalc MU	Difference	Pass/Fail	Comment
Field 6	Isocenter 1	80.1MU	80.8MU	0.87%	✓	
Field 5	Isocenter 1	69.7MU	71.0MU	1.87%	✓	
Field 4	Isocenter 1	72.5MU	74.1MU	2.21%	✓	
Field 3	Isocenter 1	77.2MU	77.9MU	0.91%	✓	
Field 2	Isocenter 1	77.2MU	75.4MU	-2.33%	✓	
Field 1	Isocenter 1	72.5MU	72.7MU	0.28%	✓	
Field 7	Isocenter 1	78.2MU	76.2MU	-2.56%	✓	

Calculation Point Doses

Calculation Point	TPS Dose	ClearCalc Dose	Difference	Pass/Fail	Comment
Isocenter 1 *-0.04cm, -0.10cm, 18.41cm*	185.4cGy	185.2cGy	-0.11%	✓	

Custom Point Selection

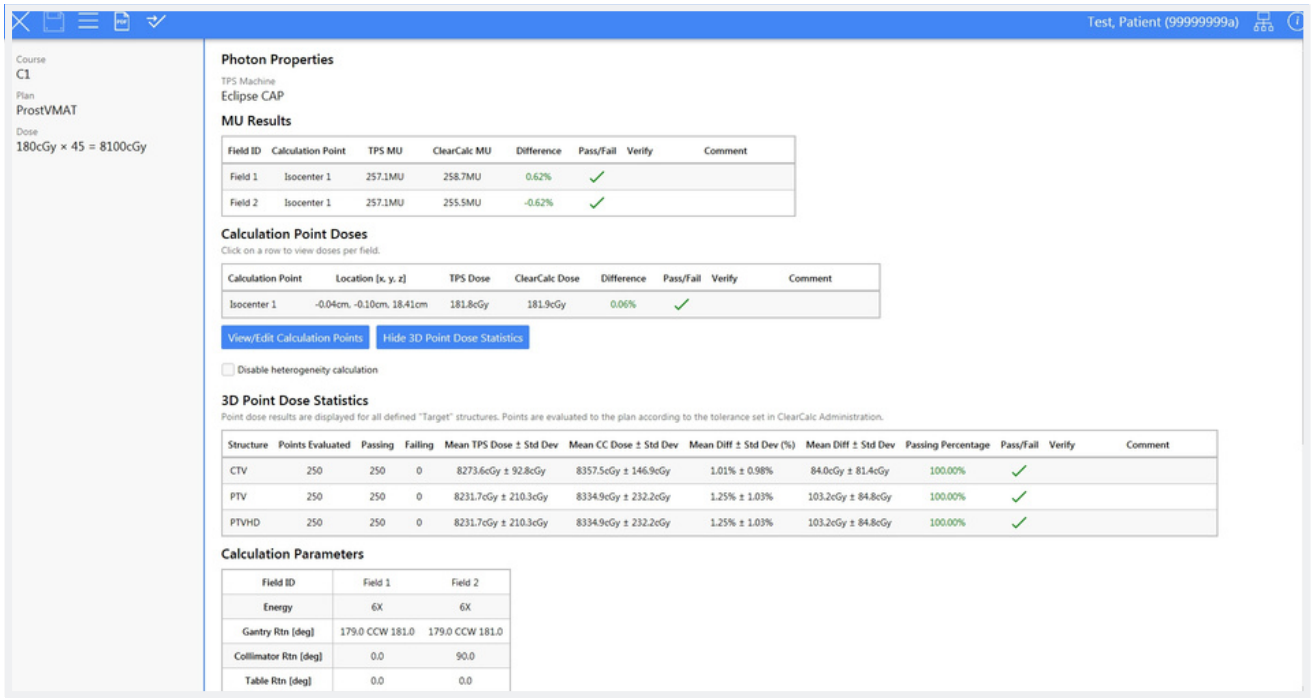


With ClearCalc's custom point selection tool, an optimal calculation point is chosen automatically, avoiding heterogeneities and dose gradients. Alternatively, with a number of points generated and viewable on the patient's CT within ClearCalc, selecting a point that makes the most sense for your department is simple.

Pass/fail dose point statistics for all calculated points in 3D space provides valuable information beyond the single point comparison.

One Platform for all Your Second Check Needs

Photon Calculation Module

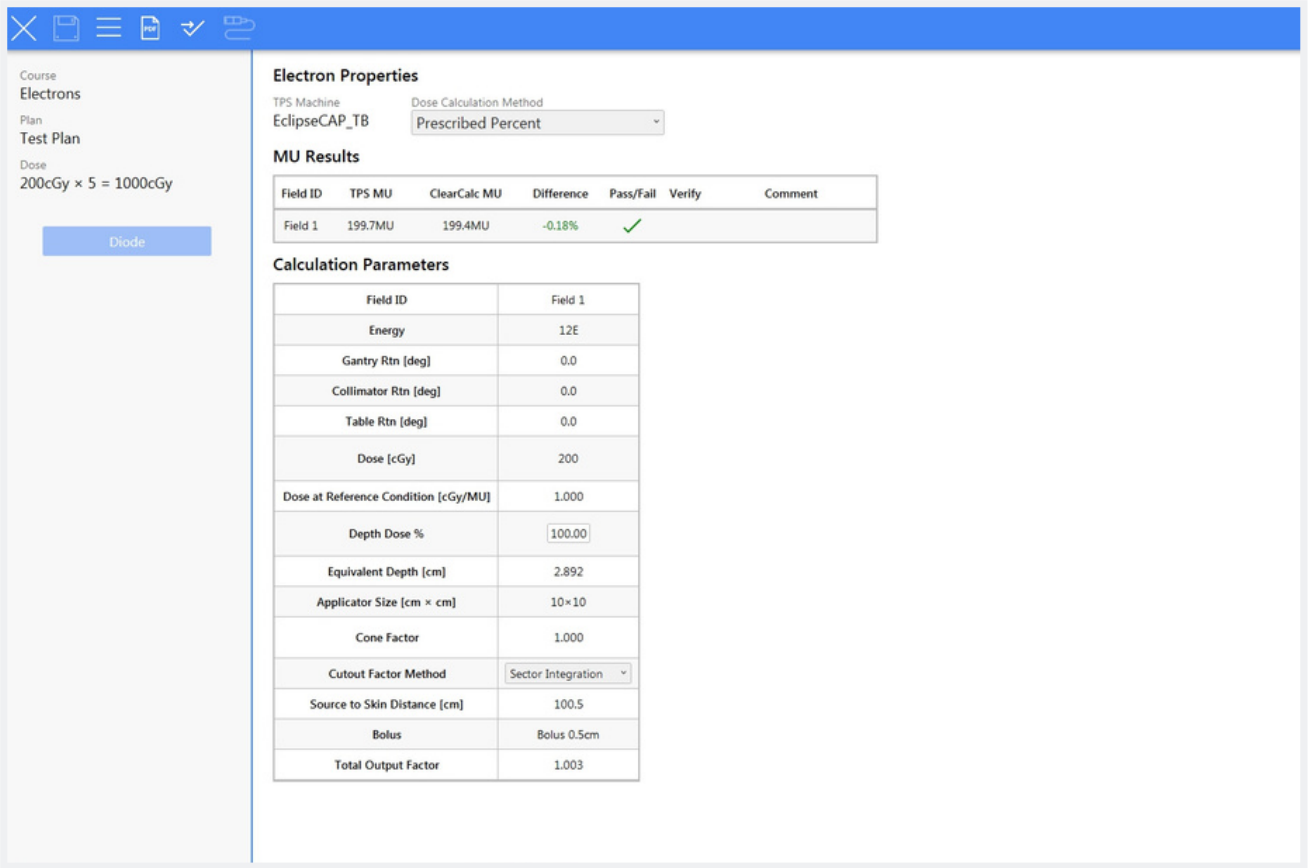


ClearCalc supports a full complement of clinical techniques, including 3DCRT, IMRT, VMAT, SBRT, SRS, virtual/ dynamic wedges, and CyberKnife plans. The hand calculation module allows for quick, manual verifications when needed.

The custom finite-sized pencil beam (FSPB) algorithm ensures that calculations are fast and accurate, fully accounting for tissue inhomogeneities.

One Platform for all Your Second Check Needs

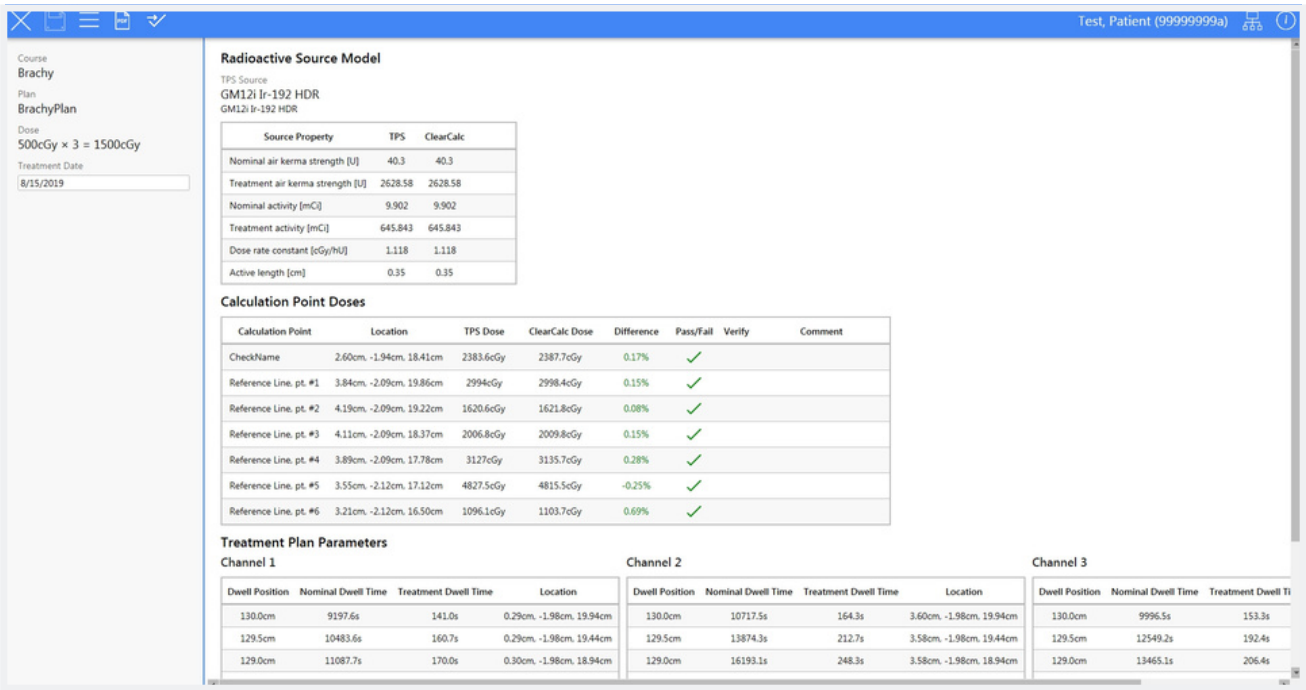
Electron Calculation Module



Electron plan evaluation is made simple using ClearCalc. Compute field doses to a prescribed percentage or choose a reference point, with the option to enter measured cutout factors or use automated sector integration. Calculations are based on AAPM TG-71 formalism.

One Platform for all Your Second Check Needs

Brachytherapy Module



ClearCalc uses calculation methods outlined in AAPM TG-43. Incoming reference points are calculated and results are easy to interpret. Applicators, dwell positions, and dwell times are displayed for verification. User may now allow ClearCalc to automatically decay to a set treatment date for nominal sources.

ClearCalc is an automatic secondary plan calculation software that streamlines plan evaluation workflow.

- ✓ **Full integration with Eclipse and ClearCheck streamlines planning workflows**
- ✓ **Accepts DICOM imports from multiple TPS vendors for flexibility in mixed environments**
- ✓ **The automatic calculation point selection workspace saves time and provides insightful 3D dose statistics for target structures**
- ✓ **Supports 3D, IMRT, VMAT, SBRT, SRS, brachytherapy, electrons, and more in a single solution**
- ✓ **Diode support allows users to calculate expected diode doses to compare with in-vivo measurements, as well as print diode result reports**

ClearCalc simplifies workflows and gives users confidence in their final treatment plans, saving departments time and streamlining plan evaluation.

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