

ECLIPSE TREATMENT PLANNING SYSTEM FEATURE SHEET

The Eclipse™ treatment planning system simplifies the development of complex radiation treatment plans. A comprehensive toolset provides the infrastructure for increased consistency and efficiency in your planning process. From the routine to the unusual, Eclipse allows you to customize your plans to your patient's individual disease.

Open

Integrated

Intuitive

KEY FEATURES OF ECLIPSE INCLUDE:

- RapidArc® radiotherapy technology volumetric arc planning
- SmartSegmentation® knowledge-based contouring
- SmartAdapt
- Proton planning
- Brachytherapy

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Contact your Varian representative to discuss these and other key features of Eclipse.
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The SmartSegmentation library includes contoured expert cases for many combinations of tumor sites and tumor classifications. All pre-contoured expert cases are accompanied by written rationales.

FEATURES

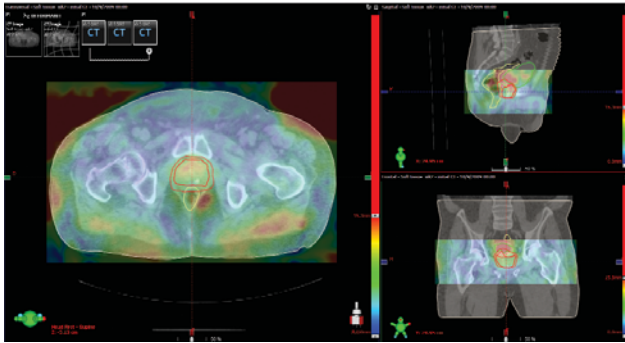
Contouring

SmartSegmentation, atlas and model-based segmentation software (Please refer to the Intended Use Summary on page 4.)

- Auto SUV contouring
- Multi-modality contouring
- Contour propagation
- 4D/gated dataset support
- MIP, AIP, and minIP image creation
- Rigid and deformable 4D structure propagation

Image registration

- CT, MRI, CBCT, and PET registration support
- Deformable and rigid registration
- SmartAdapt for tracking and adapting to interfractional target changes



CT to CBCT deformable registration for adaptive planning.

Virtual simulation

- DCR image parameter library
- Interactive Beam's Eye View
- Support for Gammex, LAP, and A2J laser systems

Planning

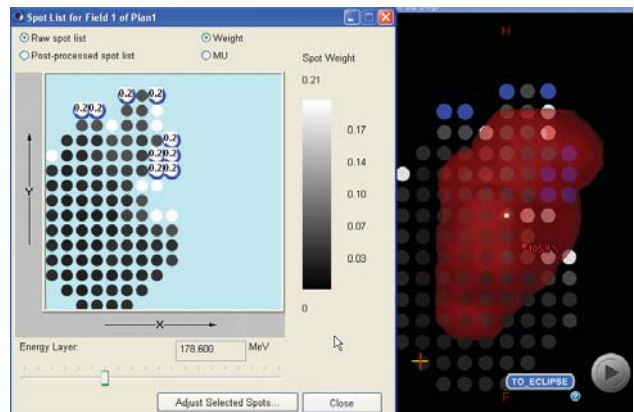
- Customizable plan and clinical protocol templates
- Composite planning
- 2D, 3D, 4D, and electron planning
- Field in field and forward planning techniques
- Compensator planning support

Advanced planning

- RapidArc with multi-arc capabilities
- Image-guided radiation therapy (IGRT)
- Dynamic adaptive radiation therapy (DART)
- Multi-vendor volumetric modulated arc therapy (VMAT) planning
- Avoidance sectors during arc optimization
- Intensity-modulated radiation therapy (IMRT) utilizing sliding window, large field, and step and shoot techniques
- Biological optimization
- Conformal arc
- Plan uncertainty parameters: Calculate the effect of isocenter and target position shifts during or after the calculation of the nominal dose distribution for the treatment

Proton planning

- Double/single scattering and ocular algorithm support
- Modulated scanning: Multi-field optimization and single-field optimization
- Spot list editor and nonlinear universal proton optimizer
- Robust evaluation



The spot list editor displays values and spots to be edited.

Brachytherapy

- TG-43 compliant; all isotopes supported
- Film and 3D image-based planning
- Plan templates and clinical protocols
- Applicator library
- Dose Shaper™ graphical interactive optimization
- Adaptive volume-based optimization
- Automatic catheter extraction from 3D data sets

Plan evaluation

- Side-by-side plan comparison
- Multi-structure, multi-plan DVH comparison
- Multiple planning modality comparison
- Biological evaluation
- Electronic plan approval

Dose calculation

- Distributed processing with parallel calculation of fields, dynamic arc control points, and Monte Carlo batches
- Acuros® XB advanced dose calculation algorithm for photon dose computation
- Acuros® BV advanced dose calculation algorithm for advanced brachytherapy calculations
- Anisotropic Analytical Algorithm (AAA)
- Electron Monte Carlo
- Progressive resolution optimization

Physics

- Automated process based on measured data
- Comparison tools as recommended by TG-53
- Electronic data approval

Quality Assurance

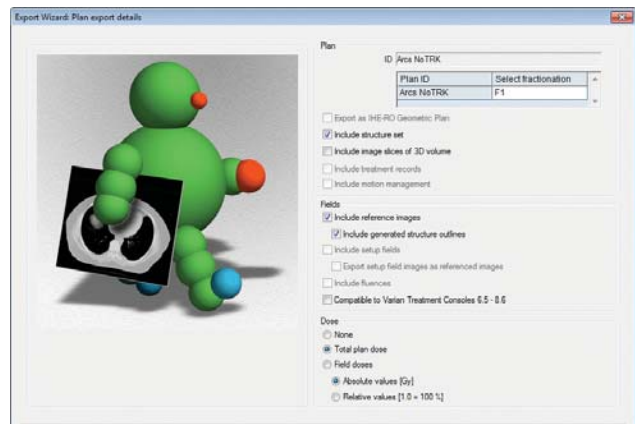
- Portal dose calculation for RapidArc fields on PortalVision™ MV imaging system
- Verification plans for water tanks or phantoms
- Portal dose calculation of IMRT fields on PortalVision
- Water equivalent depth/distance measurement

Scripting

- Scripting application programming interface (Scripting API)
- Ability to write advanced custom algorithms for many of the calculation types supported by Eclipse and the distributed calculation framework (DCF)

Other

- Elekta linear accelerator and accessory support
- IHE-RO compliant
- RTOG Digital Imaging and Communications in Medicine (DICOM) export



Eclipse adheres to DICOM communication protocols for data transfer. Using Export Wizard, clinicians can quickly and easily export images, DICOM RT structures, dose, and plan information to other DICOM-compliant systems.

OPTIONS MATRIX	ADVANCED PLANNER DESKTOP	PLANNER DESKTOP	PHYSICIAN'S DESKTOP
Standard Planning Software	•	•	•
Virtual Simulation (Laser I/F)	•	•	•
2D & 3D Dose Calculation - Photons	•	•	N/A
3D Dose Calculation - Electrons	•	•	N/A
2D BrachyVision™	•	•	N/A
IMRT Planning Package	•	○	N/A
4D Planning	•	○	•
Portal Dose Calculation	•	○	N/A
Electron Monte Carlo	•	○	N/A
Conformal Arc Planning for DMLC	•	○	N/A
3D BrachyVision	•	○	N/A
Proton Planning	○	○	N/A
Proton Planning Options	○	○	N/A
RapidArc Planning	○	○	N/A
DICOM Print /DICOM RT	•	•	•
Eclipse Database License	•	•	•
Long-Term Archive	○	○	○
Algorithm API	○	○	○
SmartSegmentation Knowledge-Based Contouring	○	○	○
Acuros XB Advanced Dose Calculation	○	○	N/A
Acuros BV Advanced Dose Calculation*	○	○	N/A
SmartAdapt	○	○	○
Biological Optimization	○	○	○
Biological Evaluation	○	○	○
Conformal Optimization**	○	○	○
Elekta Volumetric Modulated Arc Therapy (VMAT)	○	○	N/A
MU Compensators	○	○	N/A
	• Standard	○ Options	N/A Not Available

* BrachyVision is a prerequisite for Acuros BV advanced dose calculation.

** Only for Varian accelerators.

Not all features or options are available in all markets.

Intended Use Summary

SmartSegmentation® knowledge-based contouring provides a combined atlas and model-based approach for automated and manual segmentation of structures including target volumes and organs at risk to support the radiation therapy treatment planning process.

The specific expert cases, commentary, and other information provided here are intended to provide scientific background and informative examples, and are not intended to provide medical advice or an endorsement of any particular radiation contouring or treatment procedure. The radiation oncology healthcare team is solely responsible for deciding whether a patient is a candidate for radiation therapy and how to provide and contour radiation therapy.

Safety

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.



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