

## BRACHYVISION TREATMENT PLANNING SYSTEM FEATURE SHEET

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

### Open

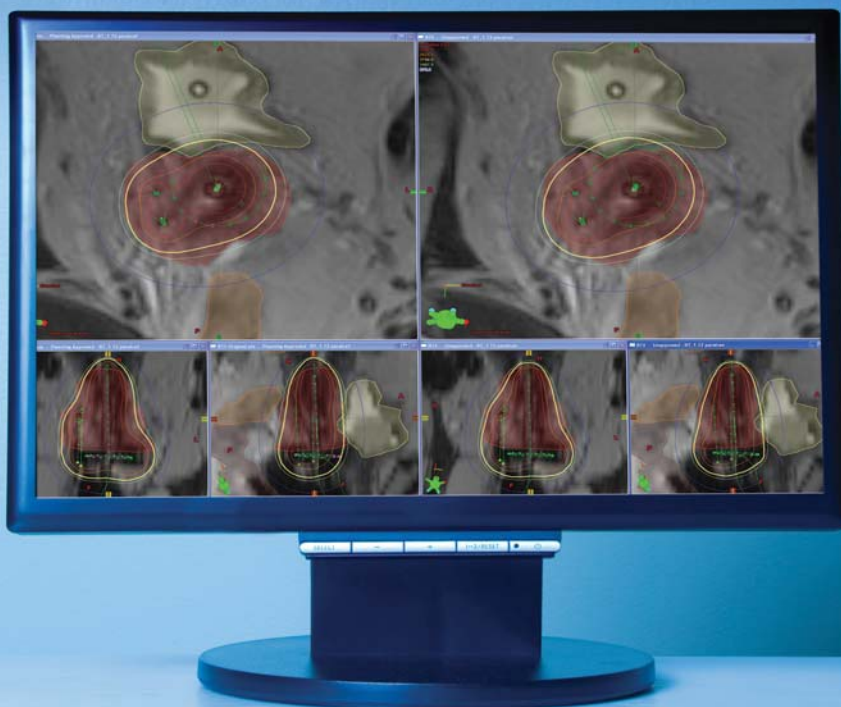
#### KEY FEATURES OF BRACHYVISION:

- HDR, LDR, and PDR supported
- TG-43 compliant, all isotopes supported
- TG-186 compliant for Varian sources
- Film and 3D image-based planning
- Plan templates and clinical protocols

.....  
Contact your Varian BrachyTherapy representative to discuss these and other key features of BrachyVision.  
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### Integrated

### Intuitive



Adaptive volume optimization (AVOL) allows users to increase efficiency by creating clinical plans in less time.\* The optimization methodology attempts to match the specified DVH limits to structures (or lines) while creating smoother dwell times and fewer hot spots.

*\* As compared to manual techniques*

# COMPREHENSIVE BRACHYTHERAPY PLANNING

Fully integrated with the ARIA® oncology information system and Eclipse™ treatment planning system

Full 3D capability using Eclipse contouring, registration, and plan evaluation capabilities, or simple 2D planning

Plan summation for brachy and external beam plans

Contour structures on any plane

Create dialogues and queries with simple scripting



## FEATURES

### Contouring

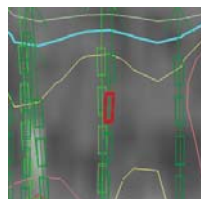
- Automated segmentation tools **E**
- State-of-the-art drawing and editing tools **E**
- Cut/paste structures from one image set to another **E**
- Draw on any image modality **E**

### Image registration

- CT, MRI, CBCT, and PET registration support **E**
- Deformable and rigid registration\*\* **E**
- SmartAdapt\*\* **E**
- Manual translation/rotation **E**
- Anatomical match point **E**
- 3D color image blending **E**
- Moving or split window graphical verification **E**

Rank	Position [order]	Applicator/Seed	Dist. to point [cm]	Contribution [%]	Dose [Gy]	Time [s]
1	2	D5 (1)	1.94	14.8	2.099	6.4700
2	7	C3 (8)	1.53	6.6	0.926	17.243
3	6	C3 (8)	1.31	4.0	0.564	7.642
4	7	E3 (9)	1.60	3.1	0.441	8.972
5	8	D5 (1)	1.98	3.0	0.418	13.278
6	1	D1 (17)	2.59	2.6	0.370	19.639
7	5	E3 (9)	1.39	2.6	0.369	5.617
8	2	E3 (9)	2.21	2.5	0.357	14.437
9	1	C2 (12)	1.64	2.5	0.348	7.315
10	2	C2 (12)	1.81	2.4	0.344	8.899
11	6	E3 (9)	1.41	2.3	0.331	5.190
12	2	D1 (17)	2.33	2.3	0.328	14.016
13	7	E4 (5)	1.53	2.1	0.300	5.643
14	5	E4 (5)	1.65	1.8	0.254	13.161

Source contribution displays the sources that contribute the most to the dose at a given point and updates the dwell times.



### Image acquisition

- Acquire images using DICOM 3.0 or directly from an ARIA server **E**
- Usable images include film, cone-beam CT (CBCT), CT, PET, ultrasound, and MR **E**

### Planning

- Customizable plan and clinical protocol templates **E**
- Dose Shaper graphical interactive optimization
- Geometric optimization
- Adaptive volumetric (DVH-based) optimization
- Source dose contribution to a point
- Dose quality alerts **E**

**E** = Existing Eclipse feature helps reduce learning curve

## Applicator data entry

- Digitize directly on 3D image
- Orthogonal/semi-orthogonal plane films
- Reconstruction jig
- Coordinate entry
- Automatic applicator identification and source placement
- Solid applicator library\*\*\*
- Plan templates

## Plan evaluation

- Side-by-side plan comparison **E**
- Multi-structure, multi-plan DVH comparison **E**
- Multiple planning modality comparison **E**
- Plan summation/subtraction **E**
- Electronic plan approval **E**

## Dose calculation

- TG-43 support for all sources
- Acuros® BV advanced dose calculation for brachytherapy calculations\*\*
  - Accounts for all inhomogeneities (e.g., patient tissue density and applicator materials) and shielding
  - Supports TG-186 guidelines
  - Provides dose calculation accuracy equivalent to “gold standard” Monte Carlo
  - View absorbed dose as to water or material
  - Calculation times are generally less than a minute (Time calculation based on using a DELL™ Precision™ T5500 with 24 GB RAM 10x10x10 cm 3 mm grid)
  - Models Varian applicators that are included in the applicator library

## Dose display

- Multiple organ surface dose imaging **E**
- Configurable isodose lines and templates **E**
- Configurable 2D dose color wash and 3D dose clouds **E**
- Dose volume histograms (including natural DVH) **E**

## Standardizing and streamlining workflow

- Care Paths **E**
  - Guides users through their required tasks **E**
  - Standardizes treatment protocols and department processes **E**
- Clinical protocols **E**
  - Standardize the generation and review of any plan
  - Allow for pre-defining of clinical plan objectives, structures to be generated, plan templates, and optimization objectives for volumetric optimization
  - Create multiple plans for the same patient



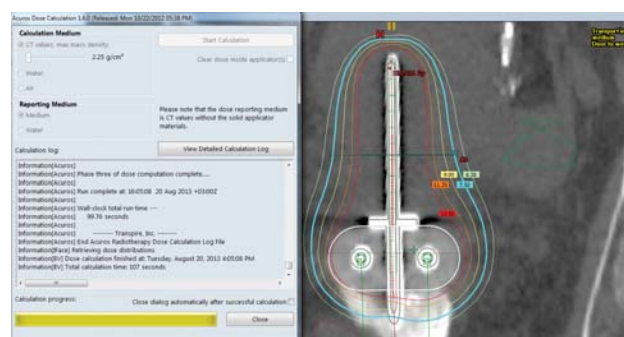
Accurately track dose delivered against prescribed dose. Dose accumulation includes dose from partial or interrupted fractions.

## Scripting

- Read-enabled scripting application programming interface (Scripting API) **E**
- Customizable programs to interrogate, manipulate, and display data contained in the database **E**

## Connectivity

- IHE-RO compliant **E**
- RTOG Digital Imaging and Communications in Medicine (DICOM) export **E**



Following TG-186 guidelines, Acuros BV accounts for inhomogeneities in patient tissue and applicators reporting absorbed dose to either water or material.\*\*

\*\* Purchasable option

\*\*\* Includes most rigid Varian applicators

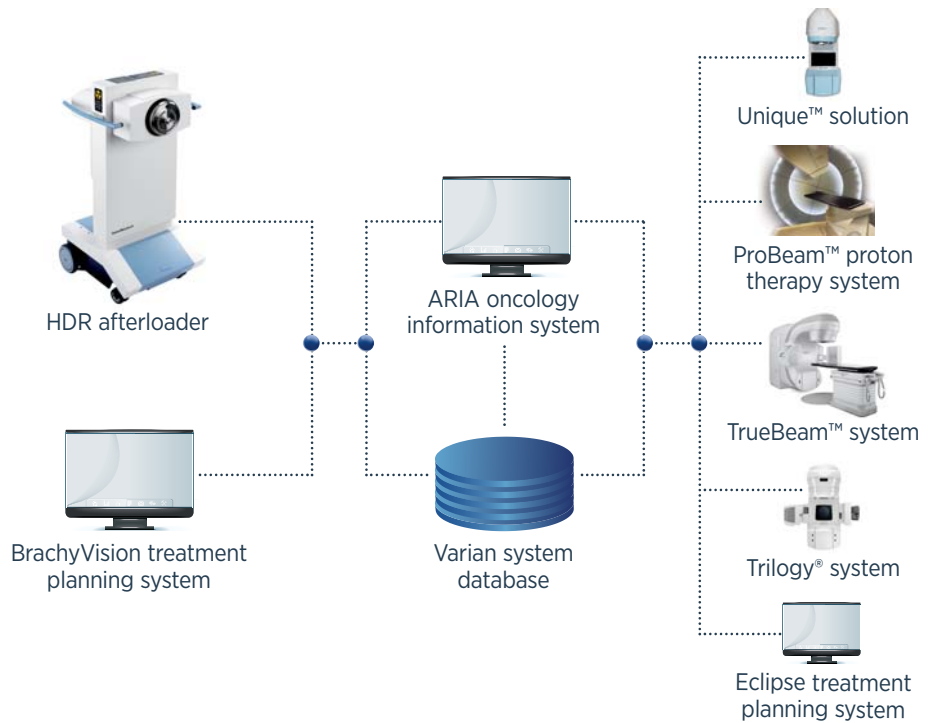


# SYSTEM WIDE INTEGRATION

Prescribe | 
  Plan | 
  Schedule | 
  Treat | 
  Record | 
  Review

## BRACHYTHERAPY INTEGRATION

1. Patient scheduled in ARIA
- ↓
2. Treatment plan created in BrachyVision and scheduled in ARIA
- ↓
3. Afterloader console pulls treatment plan from ARIA
- ↓
4. After patient treatment, afterloader console returns the treatment record to ARIA
- ↓
5. Afterloader console updates the appointment status
- ↓
6. RT Summary and Patient Summary display the treatment record and dose in ARIA



### Intended Use Summary

Varian Medical Systems' software, afterloaders, and applicators are intended to provide radiotherapy for lesions, tumors, and conditions anywhere in the body where radiation treatment is indicated.

### Safety

Radiation treatments may cause side effects varying with the part of the body being treated. This may include, but not be limited to irritation to the mouth, respiratory system, digestive system, genitourinary system, fatigue, nausea, skin irritation, and hair loss. In a minority of patients, side effects can be severe. Typically, the side effects are temporary. Radiation treatment is not appropriate for all cancers. Treatment sessions may vary in complexity and time. Patients should discuss the treatment and side effects with their physicians before starting.

Side effects of applicator placement and/or implantation may occur. These side effects may include, but are not be limited to, localized discomfort, bleeding, and infection or other localized side effects based on the location the applicator is placed. Patients should discuss the treatment and side effects with their physicians before starting.

### Medical Advice Disclaimer

Varian as a medical device manufacturer cannot and does not recommend specific treatment approaches. Individual treatment results may vary.

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