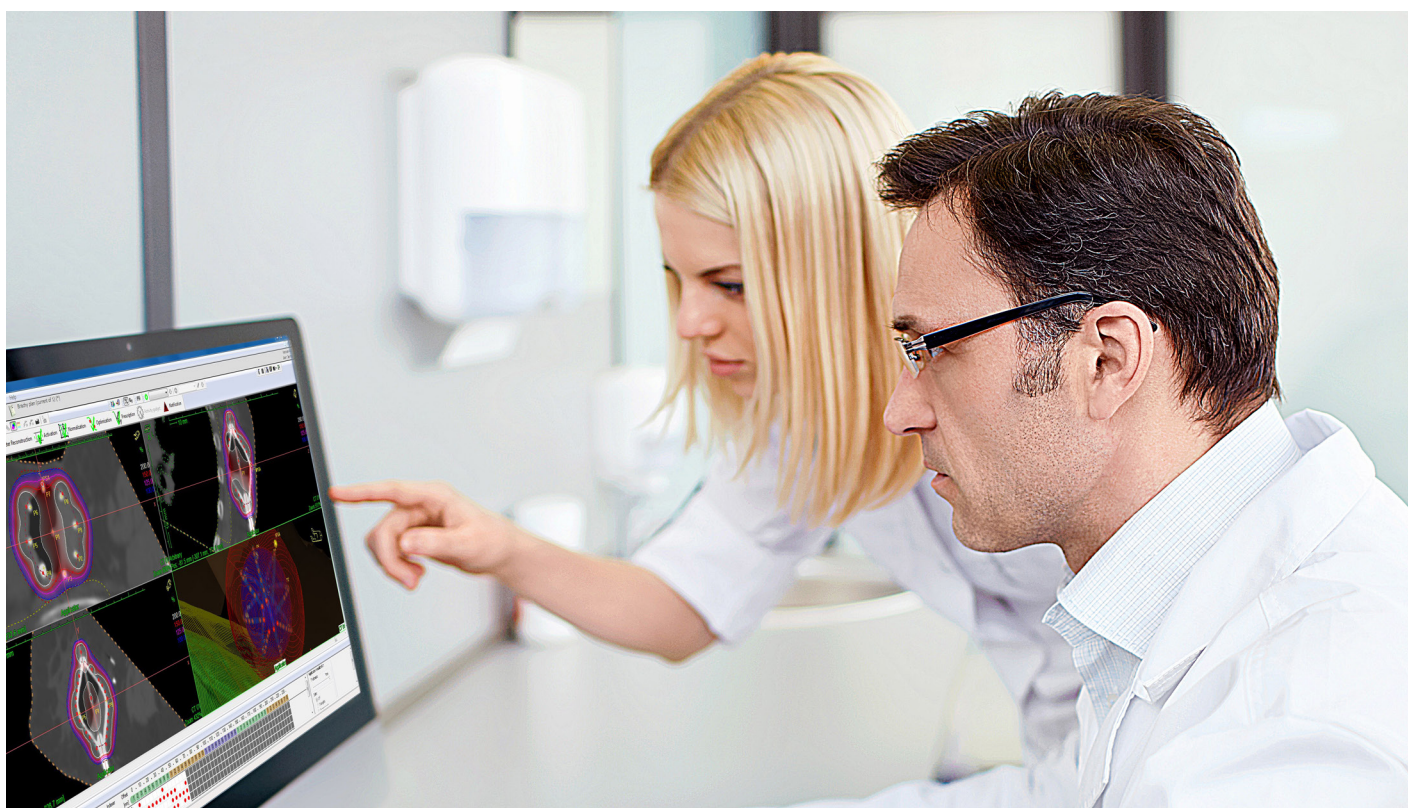# Oncentra® Brachy

Comprehensive treatment planning for brachytherapy


Advanced planning made easy

Advanced planning made easy

Oncentra® Brachy offers a variety of smart tools that facilitate many of the repetitive tasks for you.

In contemporary brachytherapy, the medical physicist needs to process an increasing amount of information and turn it into an effective treatment plan in a limited time. Variables include precise information on the implant, target anatomy and surrounding tissues and critical organs. All need to be accounted for in the treatment plan. Creating a highly conformal plan can therefore be a time-consuming task.

The latest version of Oncentra® Brachy offers a variety of smart tools that facilitate many of the repetitive tasks for you, such as contouring and reconstruction. Oncentra Brachy helps you accelerate your workflow and optimize the accuracy of your treatment plan. Oncentra Brachy buys you time to focus on designing the optimal dose distribution.
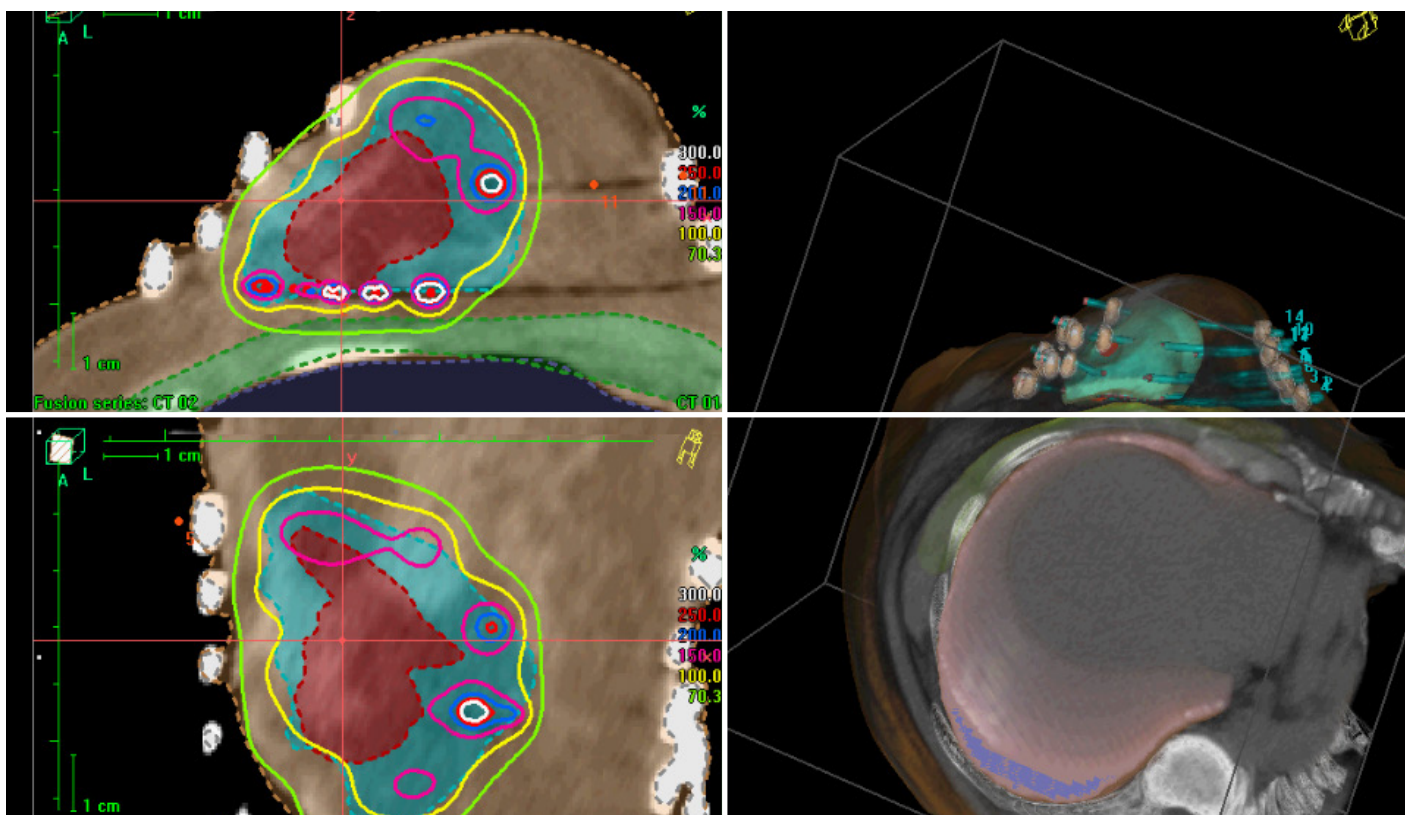
Innovation for today and tomorrow

From the pioneering NPS to the trendsetting PLATO planning platform, our legacy continues to fuel treatment planning innovation. Today, Oncentra Brachy offers state-of-the-art film- and volume-based treatment planning. With Oncentra Brachy, the next evolution in treatment planning will be within reach.

Why Oncentra Brachy?

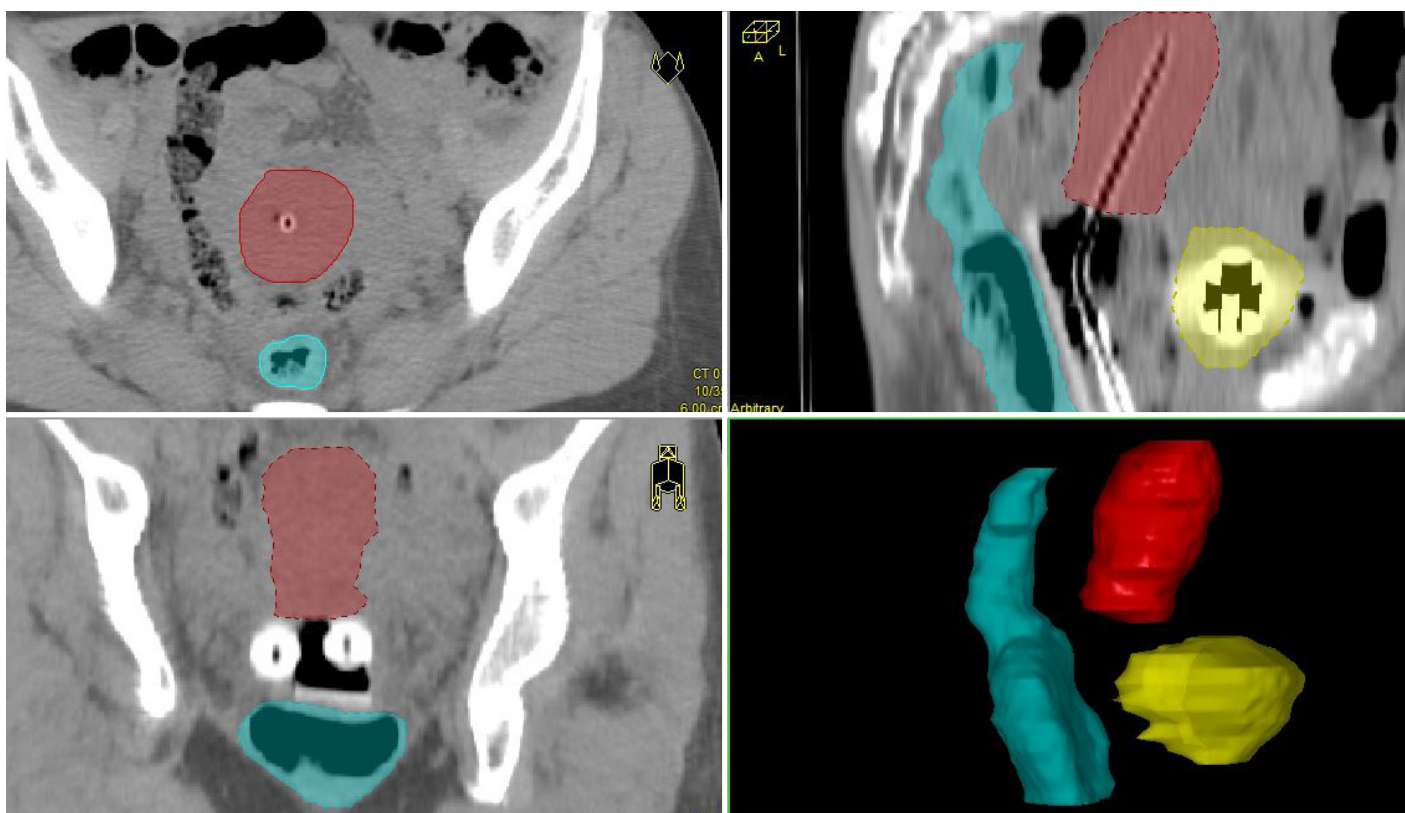**Easy mapping of patient anatomy**
Contouring in arbitrary planes

Reduced implant reconstruction time
Implant modeling and applicator modeling

Simplified procedures
Automatic dose optimization

Easy mapping of patient anatomy

Contouring in arbitrary planes

Oncentra Brachy allows you to navigate freely in the image data set, whether it is CT, PET/CT, ultrasound or MRI. You can easily scroll through the images in any direction (sagittal, axial and arbitrary), enjoying full flexibility when contouring regions of interest (ROI). By combining the arbitrary planes view with, for instance, the pearl tool, you can now realize real 3D contouring possibilities.
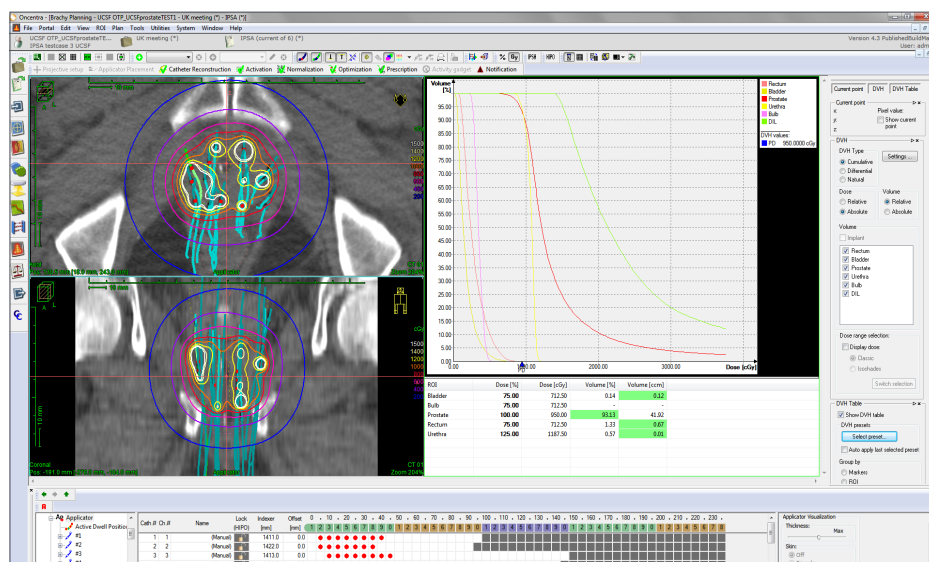
The same concept of free navigation in arbitrary planes view is used in the catheter reconstruction mode, giving you the option to view the image data set in relation to the applicator position. This very easy-to-use feature provides fast and highly accurate reconstruction results and increases accuracy in dose administration.

"Oncentra Brachy helps me to bring more efficiency and accuracy into my workflow. One of the features I particularly like is 'contouring in arbitrary planes.' Now I can contour organs in any plane, which makes the workflow straightforward and reduces overall planning time. This is a major step forward in 3D planning."

Firas Mourtada, M.S.E., Ph.D., D. ABR. Chief of Clinical Physics, Christiana Care's Helen F. Graham Cancer Center

Instant plan evaluation with the DVH dashboard

Oncentra Brachy employs DVH presets—user-definable Dose Volume Histogram parameters, such as D90 and V100 and their thresholds. Using a 'dashboard' screen that shows the planned dose administration and matching DVH settings, users can visually evaluate and instantly determine if treatment plan objectives will be met.


ROI Catalog Manager for standardization in contouring

The ROI Catalog Manager is used to define ROI sets per anatomical site (such as prostate or cervix), containing standardized line colors and thicknesses for display, as defined by the user. ROI sets can be stored and reused for new cases. It's another handy tool to expedite the procedure and ensure reproducibility throughout the workflow.
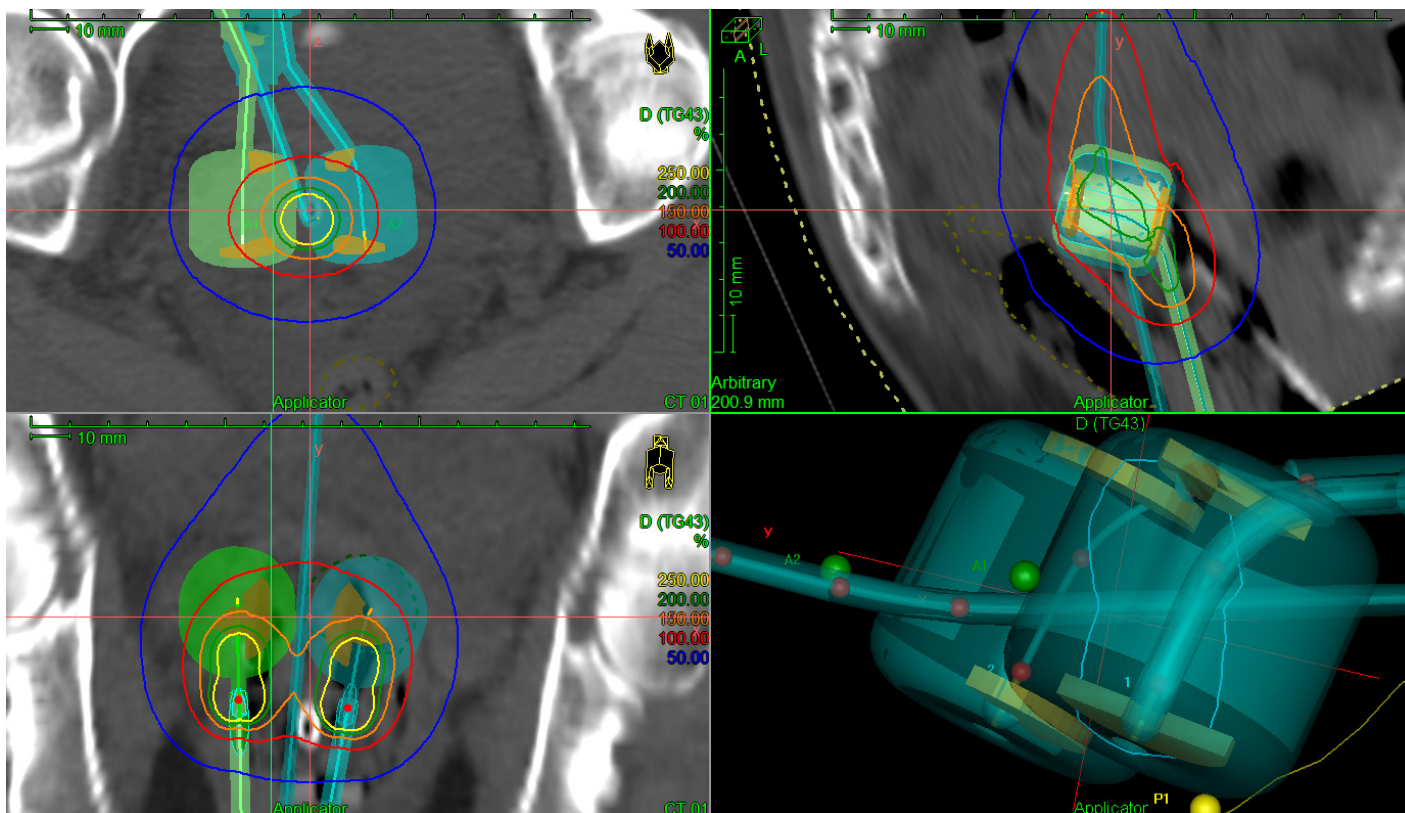
Reduced implant reconstruction time

Applicator Modeling

The Applicator Modeling module contains the complete geometry of Elekta's rigid gynecological brachytherapy applicators, and includes the measured source paths of ring applicators. This powerful tool is very easy to use: simply select the applicator type and insert the 3D geometric model in the image set. The applicator is instantly reconstructed in relation to the anatomy.

For shielded applicators, Oncentra Brachy accounts not only for dose attenuation resulting from shielding during planning, but now the shields are fully visible in the applicator model. Tandem and ovoid applicators with customizable ovoid positions are reconstructed in the exact position with just a few additional clicks for catheter rotation and bending of the intrauterine tube and ovoids.
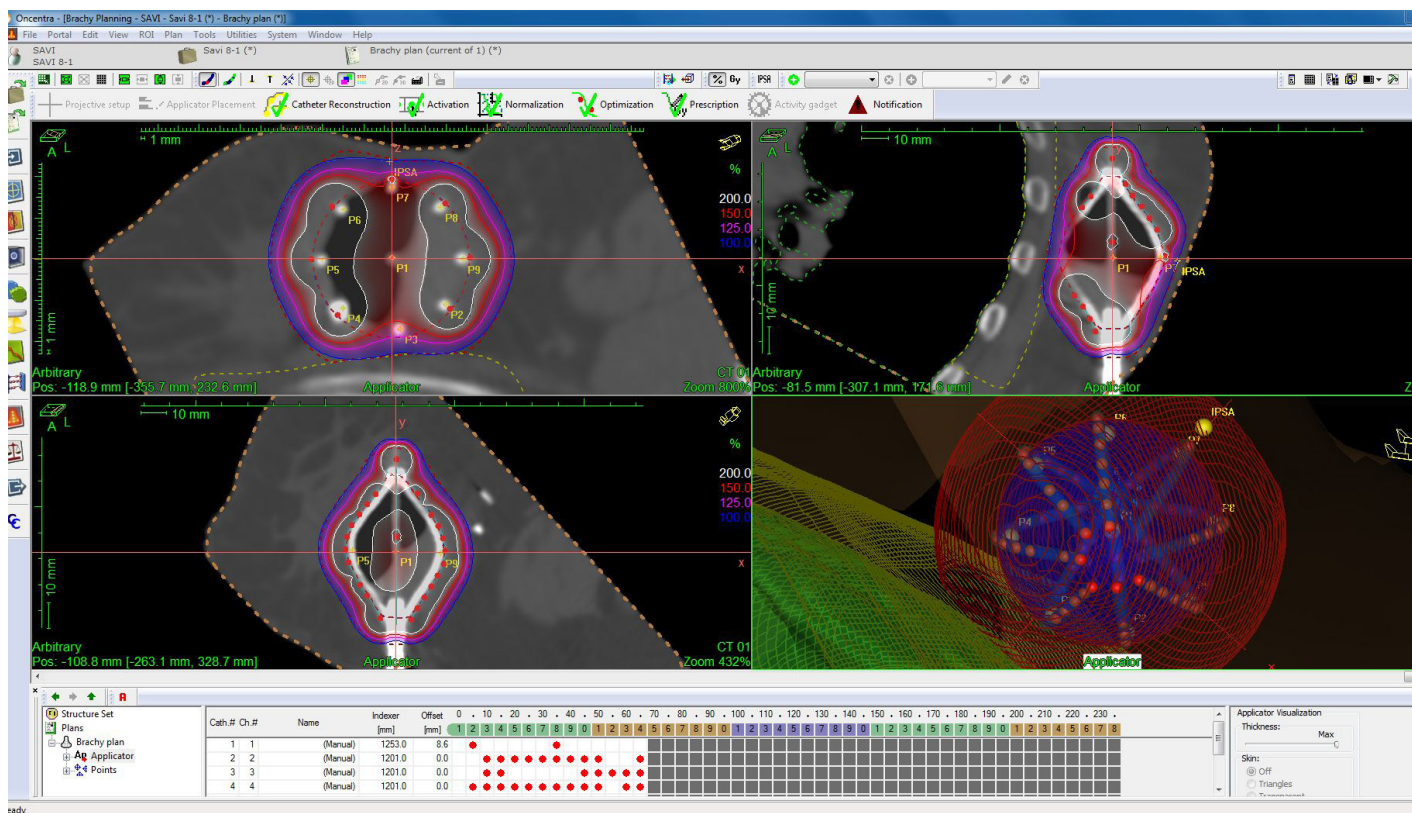
New **Implant Modeling**

Oncentra Brachy now offers the new Implant Modeling tool, for example, for strut catheters. With Implant Modeling, multicatheter implants can be reconstructed immediately.

The Drag & Drop 3D applicator geometry in image sets facilitates accurate and time-saving reconstruction. With the Extra Coordinate System (ECS), you can navigate to the correct plane views and drop the pre-defined applicator points to coincide with the anchor points in the image set. The applicator is now in place and its position can be fine-tuned if needed. These features will save you considerable time, as reconstructed implants can be reused.
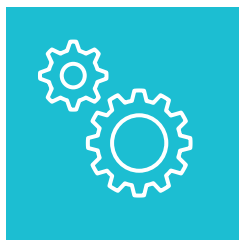
Simplified procedures

Automatic dose optimization

Any planning procedure has the competing objectives of optimal target coverage, dose homogeneity and protection of organs-at-risk. Oncentra Brachy offers two inverse optimization algorithms that can automatically deliver the optimum dose distribution within the user-defined clinical contraints.

During the automated process, you retain full control. Not only are you able to define the constraints yourself, but inverse optimization can also be combined with any planning and optimization method, from manual dwell time editing to graphic optimization, for example. The result is an optimum dose distribution in much less time and with fewer intricate adjustment steps.

Both HIPO and IPSA modules include tools that enable even greater refinement in plan optimization.
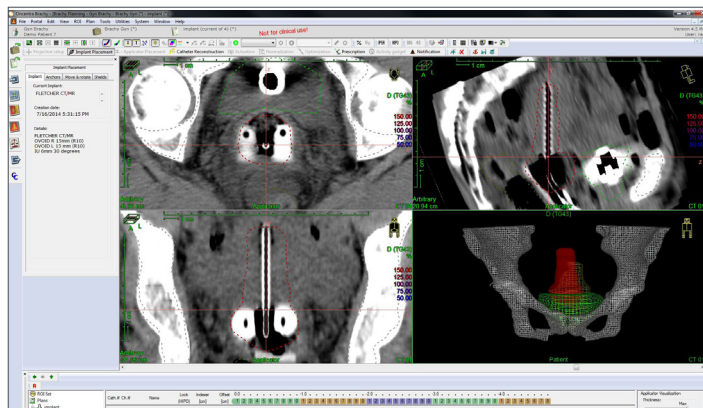
Exclusive inverse planning tools for automated optimization of dose conformity

IPSA

IPSA is paired with the Dwell Time Deviation Constraint (DTDC), making the plan robust by limiting high variations in dwell times.

HIPO

HIPO improves plan optimization with Dwell Time Gradient Restriction (DTGR) – to control both high and low peaks in dwell times – and needle locking, which allows you to lock the part of the implant that you are satisfied with and then focus your optimization on the piece that still needs work – for example, additional interstitial needles.
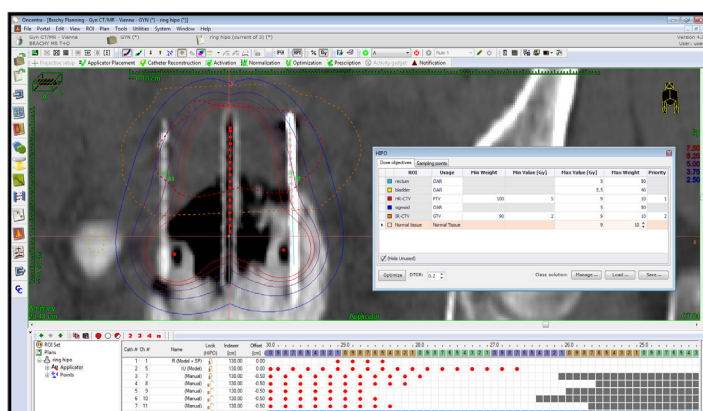

Catheter locking in HIPO provides the ability to constrain optimization to a portion of the plan, allowing local changes while keeping the rest as you prescribed it

Preparing for the future

Advanced Collapsed cone Engine (ACE)

Oncentra® Brachy is another step closer to clinical reality with the addition of its new Advanced Collapsed cone Engine (ACE). This dose calculation algorithm for brachytherapy is based on the TG-186 recommendations published by the AAPM workgroup in 2012.

ACE, fully integrated in Oncentra Brachy, discriminates between tissue, air and bone and accounts for tissue heterogeneities, lack of backscatter from areas where there is no tissue, applicator attenuation and shielding. With accuracy similar to Monte Carlo, but with faster calculation times, ACE provides better insight on the actual dose distribution compared to TG-43, enabling you to make informed treatment decisions.
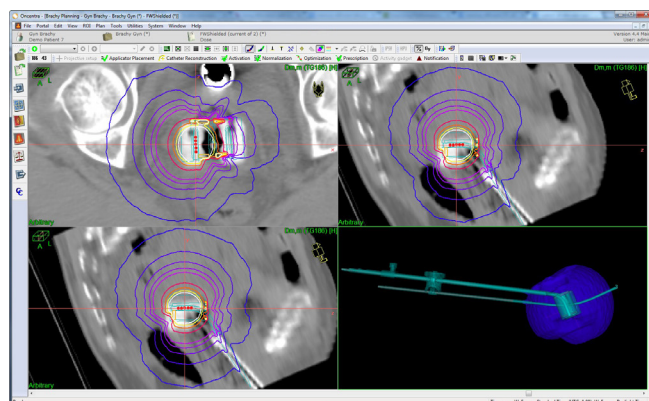
Dose distribution calculated by ACE
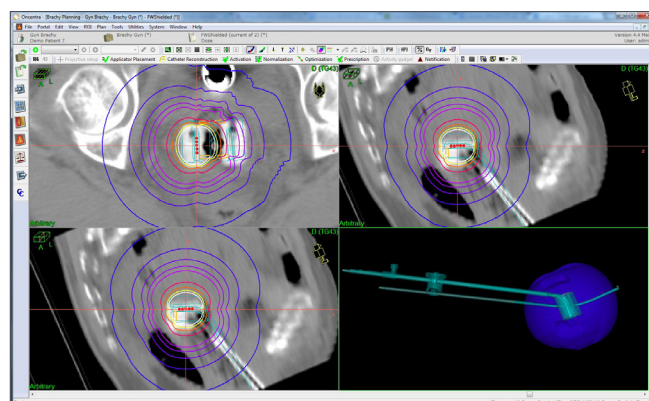
Standard TG-43 dose distribution, with correction for shielding

Oncentra Brachy

Comprehensive brachytherapy treatment planning that

- Allows you to focus on creating accurate and conformal treatment plans
- Saves you time
- Is easy-to-use
- Supports all Elekta afterloading platforms and applicators
- Is used in over 1,300 clinics worldwide

Oncentra Brachy intelligent workflow tools

DICOM Import	3D Contouring	Reconstruct	Dosimetry Optimization	Evaluate
Full DICOM compatibility	CT/MR image fusion	Implant Modeling	Library plans	Real-time DVH
DICOM RT outstanding import/export	Arbitrary planes navigation	Applicator Modeling	IPSA	Synchronized plan evaluation
	Pearl tool	Auto catheter recognition	HIPO with catheter locking	DVH pre-sets
	3D margining	Arbitrary planes reconstruction (ECS)	Graphical optimization	Film and volume based planning
	Advanced visualization		ACE	2D and 3D visualization modes
	ROI Catalog Manager			

For almost five decades, Elekta has been a leader in precision radiation medicine.

Our nearly 4,000 employees worldwide are committed to ensuring everyone in the world with cancer has access to—and benefits from—more precise, personalized radiotherapy treatments.

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