



Oncentra[®]
Brachy

Volume-based treatment planning
for HDR/PDR brachytherapy

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In its rich history, Nucletron has developed a wide range of treatment planning solutions.

From the pioneering NPS to the well-known PLATO systems, Nucletron has always proved to be able to set the market's standards with its innovations.

With Oncentra Brachy, Nucletron offers a solution to today's ever-increasing healthcare demands.

The new system will enable physicians, physicists and radiotherapy technicians to respond effectively to the need to deliver higher-quality and fully integrated treatments to more patients in less time.

Oncentra® Brachy

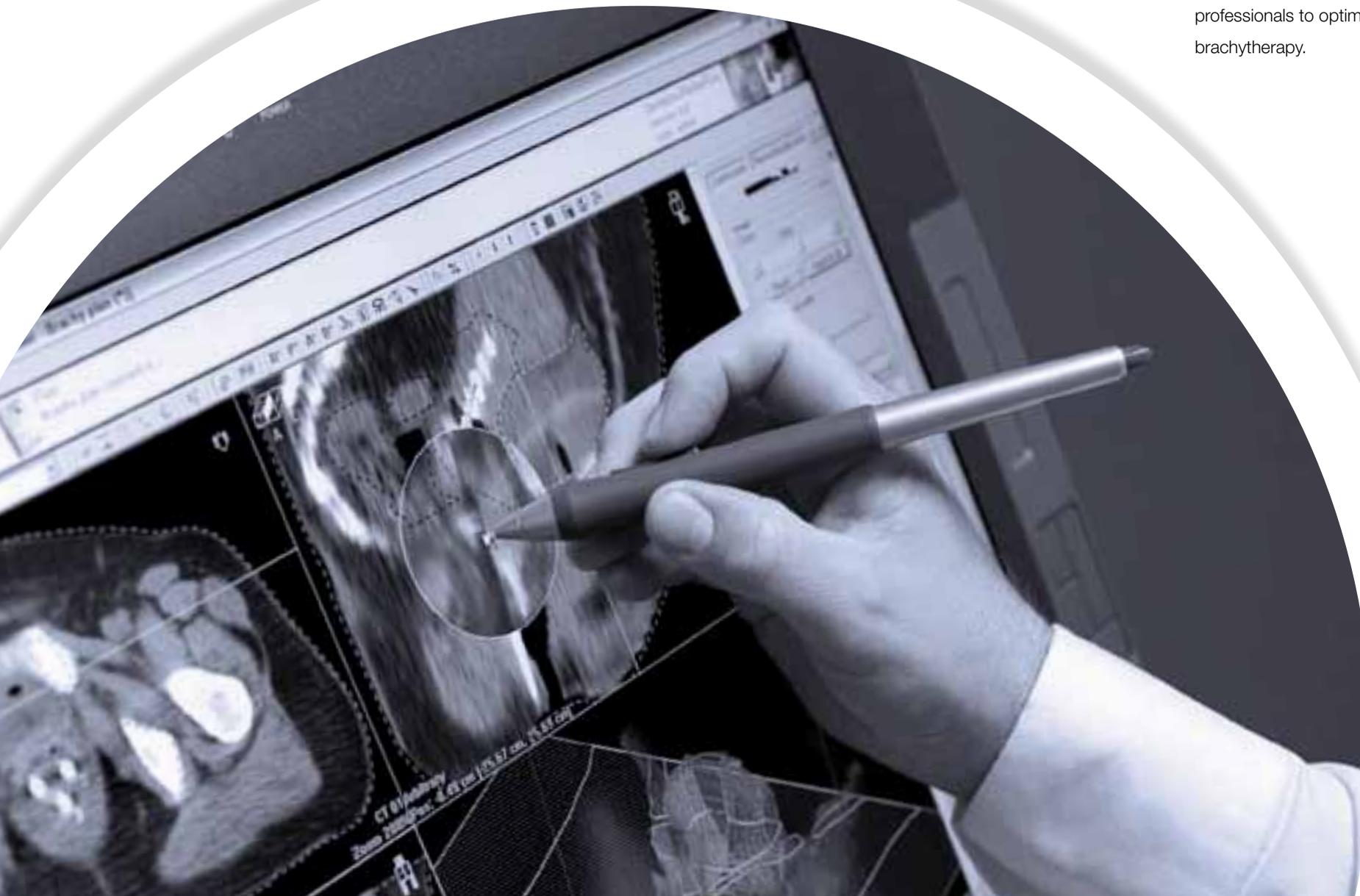
Improving treatment planning in a multimodality environment

Oncentra Brachy, Nucletron's latest solution for treatment planning, is the most advanced way to help medical professionals to optimally treat cancer patients through brachytherapy.

With over 25 years of experience, Nucletron has put all its knowledge and utmost care into making Oncentra Brachy the ultimate treatment planning tool. It is fast, reliable, contains all the features that the user may need and enables him or her to share vital data with the right people, wherever they are and whenever the information is required.

Oncentra Brachy represents an important step forward in treatment planning for brachytherapy. It is a comprehensive and user-friendly volume-based planning system that includes state-of-the-art optimization algorithms to ensure efficient treatment planning. Oncentra Brachy fits seamlessly into Nucletron's solutions for imaging and treatment delivery. The system is the world's first fully DICOM-compatible treatment planning solution for brachytherapy. It can be used as a stand-alone system, but can also be perfectly integrated into Oncentra MasterPlan, in combination with IMRT and proton planning.

*Brachytherapy treatment
planning tools at your fingertips*



Access anywhere, anytime

The Oncentra solutions facilitate treatment planning and information sharing, independent of location, hardware specifications or network bandwidth.

Oncentra Brachy provides access to commonly used tools such as image fusion, catheter reconstruction, optimization and evaluation, and many other advanced treatment planning features for brachytherapy.

It allows physicians, physicists, referring physicians and other medical professionals to work together from anywhere on the planet in real-time.

Benefits

Speed:

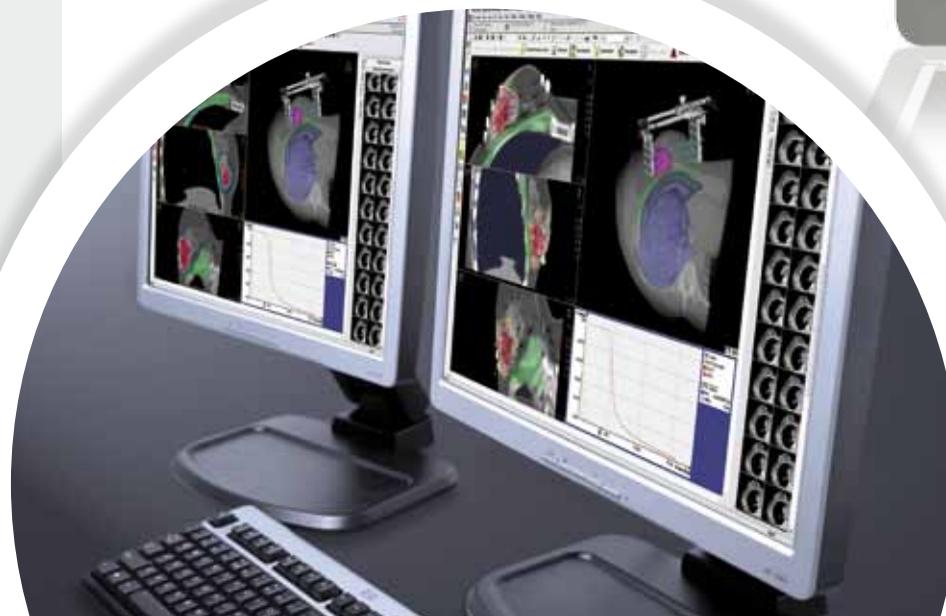
- Faster and easier creation of simple and complex treatment plans
- Spend less time managing data transfer via DICOM (RT)
- Benefit from tools that make 3D contouring, catheter reconstruction, optimization and evaluation a faster and less complex task

Quality:

- Optimize your clinical workflow
- Improve patient care
- Create treatment plans based on clinical protocols and class solutions

Information sharing:

- Give the entire medical team immediate access to the plan information they need
- Share plan information over vast distances with decentralized planning
- Remote contouring and evaluation in a distributed environment
- No need for physicians to travel to evaluate and authorize plans



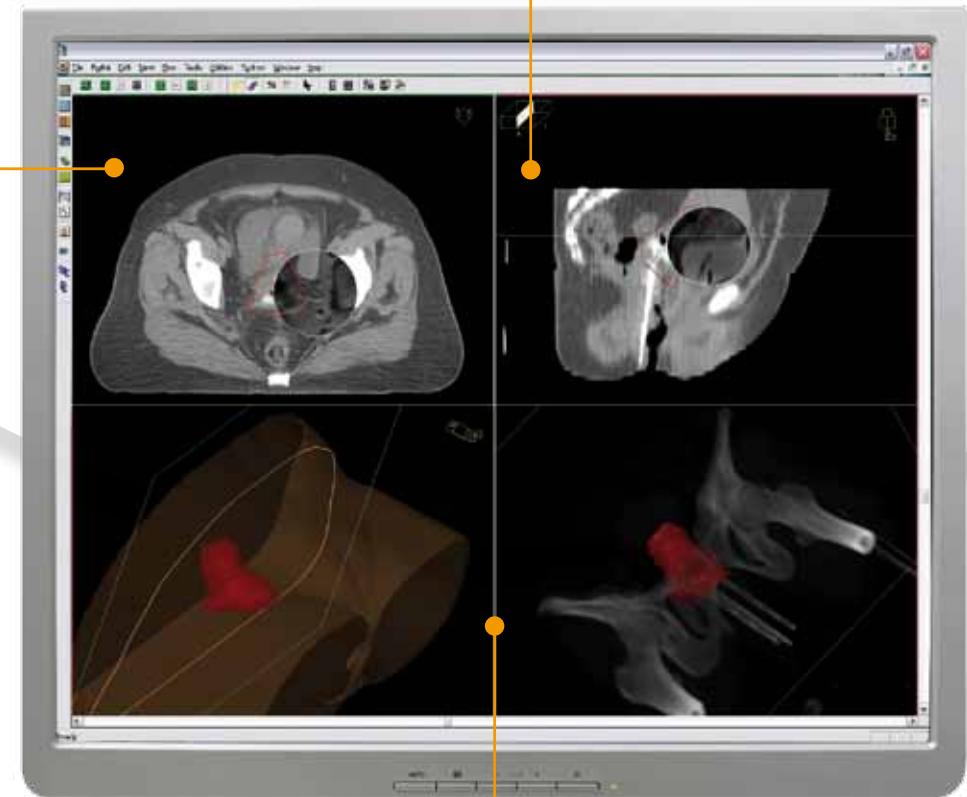
Multimodality imaging environment

Oncentra Brachy provides excellent 3D contouring and margining tools to identify Volumes of Interests (VOIs) on CT or in a multimodality imaging environment, using Image Registration for CT, MR and PET data. The Magic Wand and Spyglass features offer superb possibilities for fast and accurate target delineation.

With rapid volume definition tools, a wide variety of anatomies can be contoured for full volume rendering in just a few clicks. For instance, by drawing one contour in a transverse slice and another on a sagittal slice, a full 3D volume can be created with just one additional mouse click.

Draw contours directly to CT using MR data, with the spyglass tool.

Display of blended image sets for sagittal contour



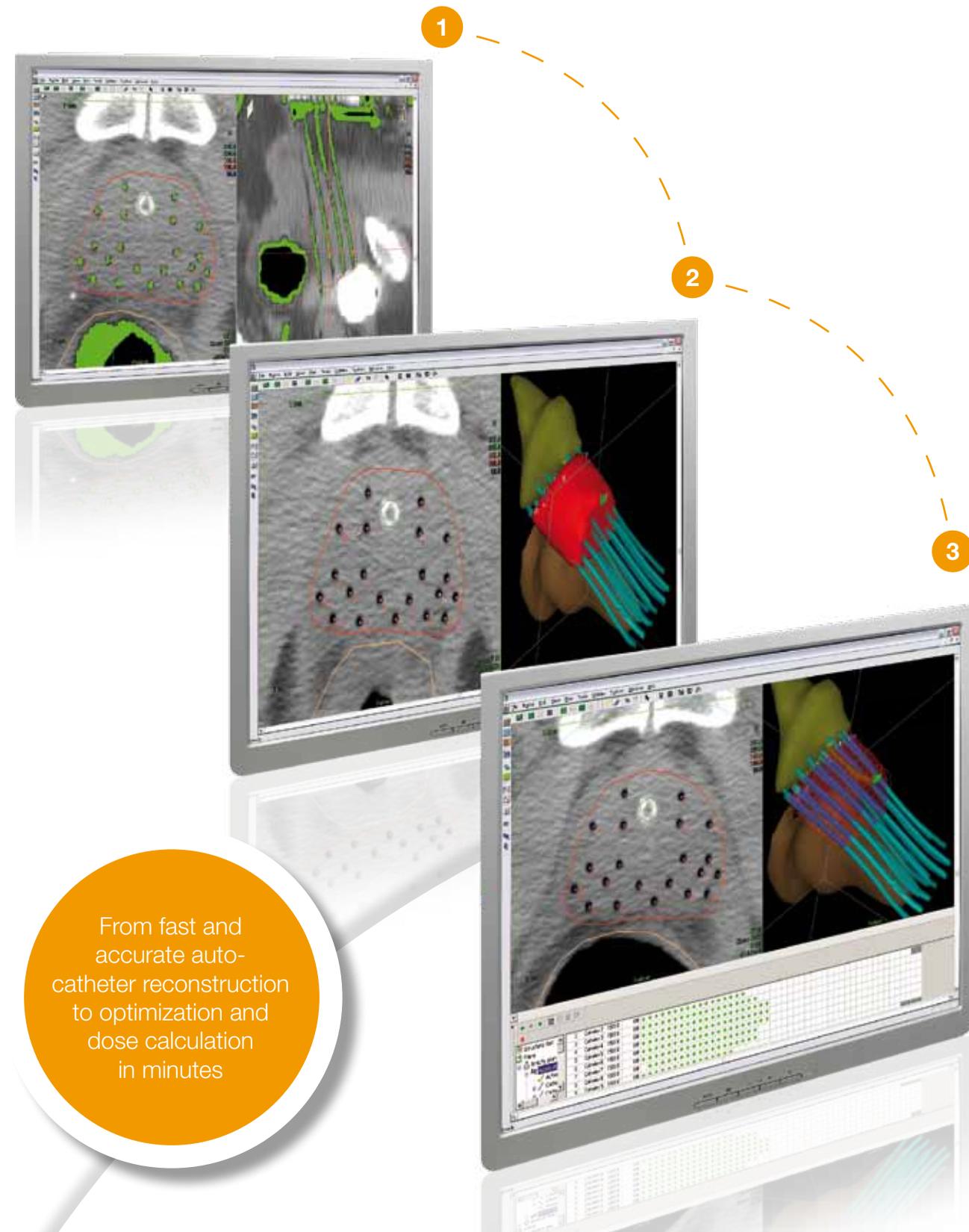
Full 3D volume constructed in different views

User-defined workspaces

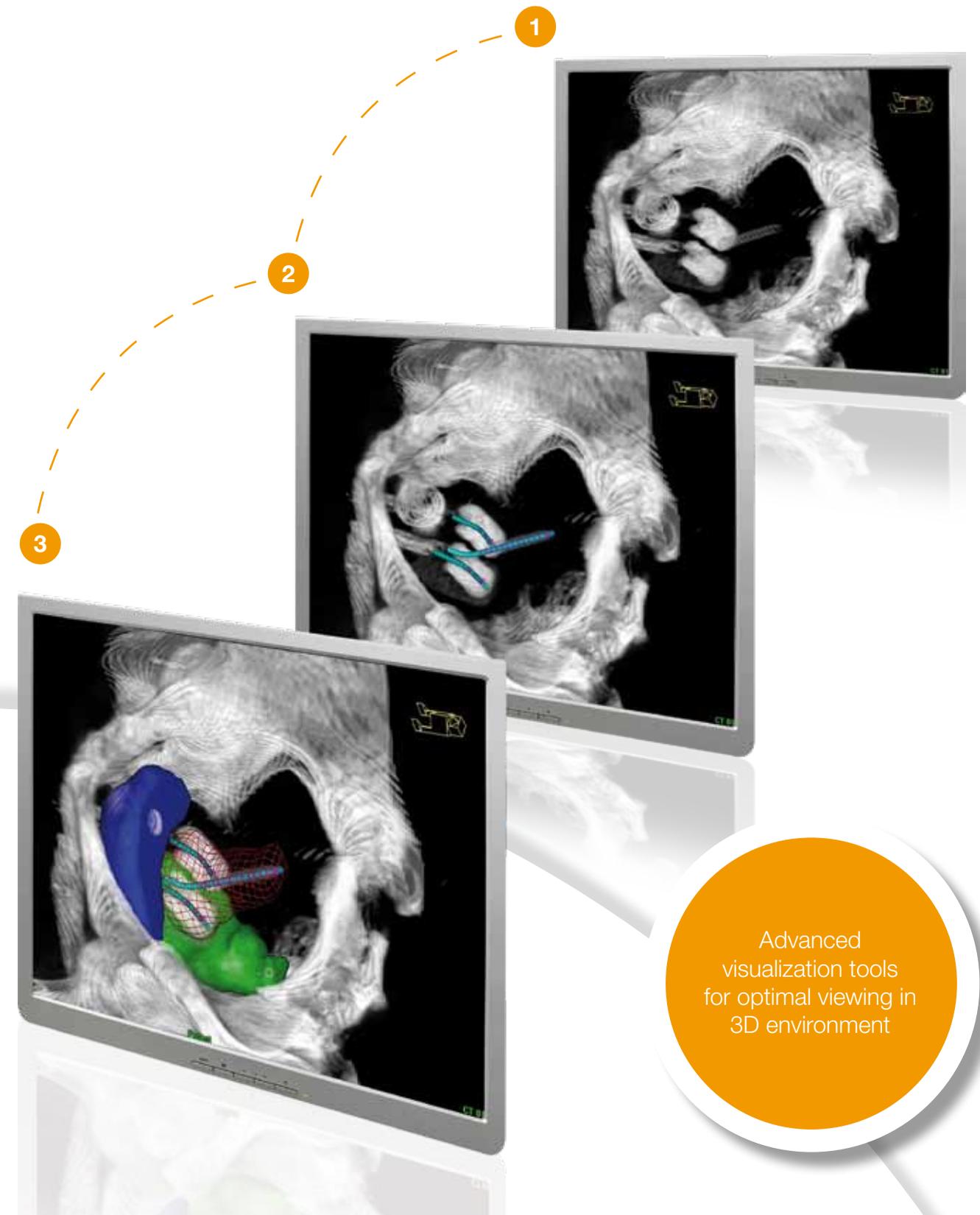
Users can be flexible in making their own workspaces with the planning tools they normally use, allowing them to adapt the system to their clinical workflow. A dual screen is optional and provides full flexibility to further increase ease of use.

Implant reconstruction

The Automatic Catheter Reconstruction feature enables quick and easy representation of the catheters in a 3D volume view. This method allows for fast reconstruction of catheter positions in the entire region of interest. It does so by setting several modality- and catheter-specific parameters and annotations of the catheters' initial locations in one slice.



The reconstructed implant can be visualized with multiple viewing options. The 3D view enables easy, fast and precise evaluation of reconstruction results. Manual reconstruction techniques are available and can be performed in any mix of arbitrary planes. Source dwell positions can be entirely auto-activated or manually adjusted as well.



Film-based planning

A wide range of projective image data sets can be used for 3D reconstruction of implants and catheters.

The hardcopy images can be scanned in the application through DICOM film scanners.

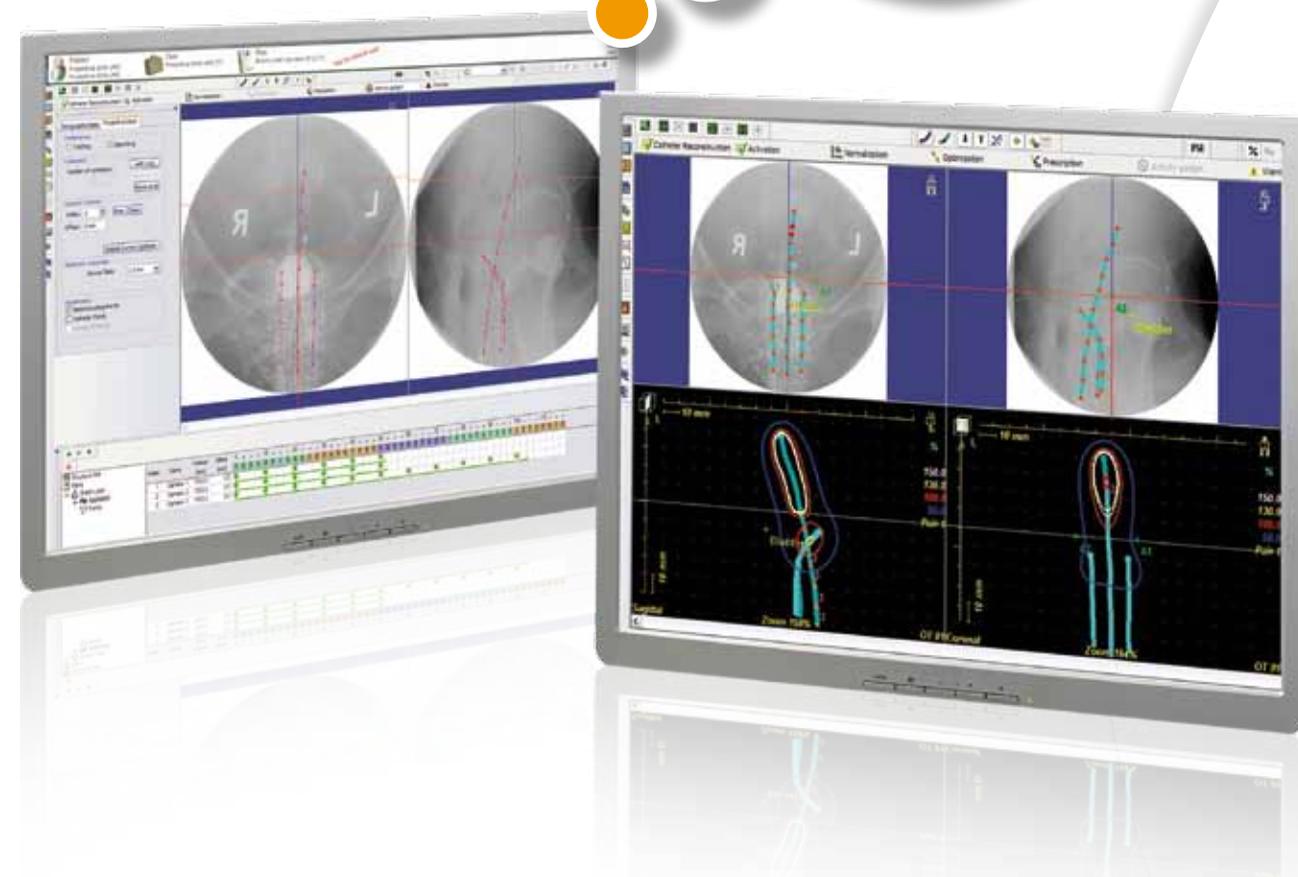
The DICOM utility tool can convert JPEG and Bitmap formats to DICOM files for further processing.

Several reconstruction techniques such as Orthogonal, Semi-Orthogonal, Isocentric and Variable angle are supported. Reconstruction from the IBU is supported as well. A choice of methods, such as describing points and tracking points, provides full flexibility in combination with the corresponding lines in the reconstruction process.

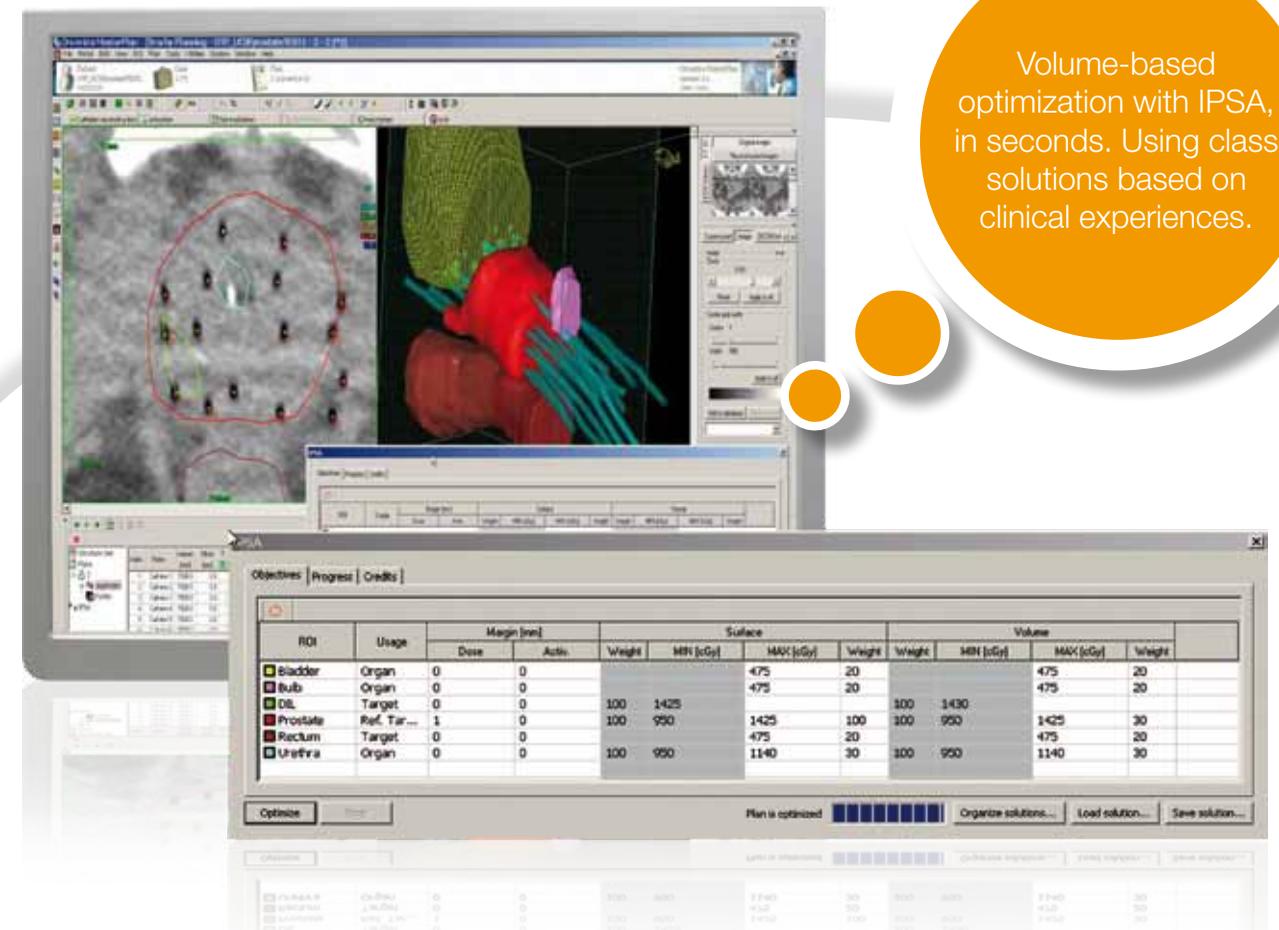
Point reconstruction

Smart implementation of multiple point reconstruction is facilitated for patient, applicator, dose and any user defined points, which can also be used for dose point optimization and to record dose.

Improved workflow for implant reconstruction



Volume-based optimization with IPSA, in seconds. Using class solutions based on clinical experiences.



Advanced volume-based planning

High-quality treatment plans

With the optimization feature IPSA, dose homogeneity and coverage to the target can be further improved and at the same time meet the dose constraints to organs at risk. The DVH display is shown in real-time. This aspect reduces the time needed for plan evaluation. Class solutions, specific sets of dose objectives and weighting factors that offer an optimal solution for one patient can all be saved and reused for treatment plans of similar cases. This again saves time, as treatment plans do not have to be created from scratch.

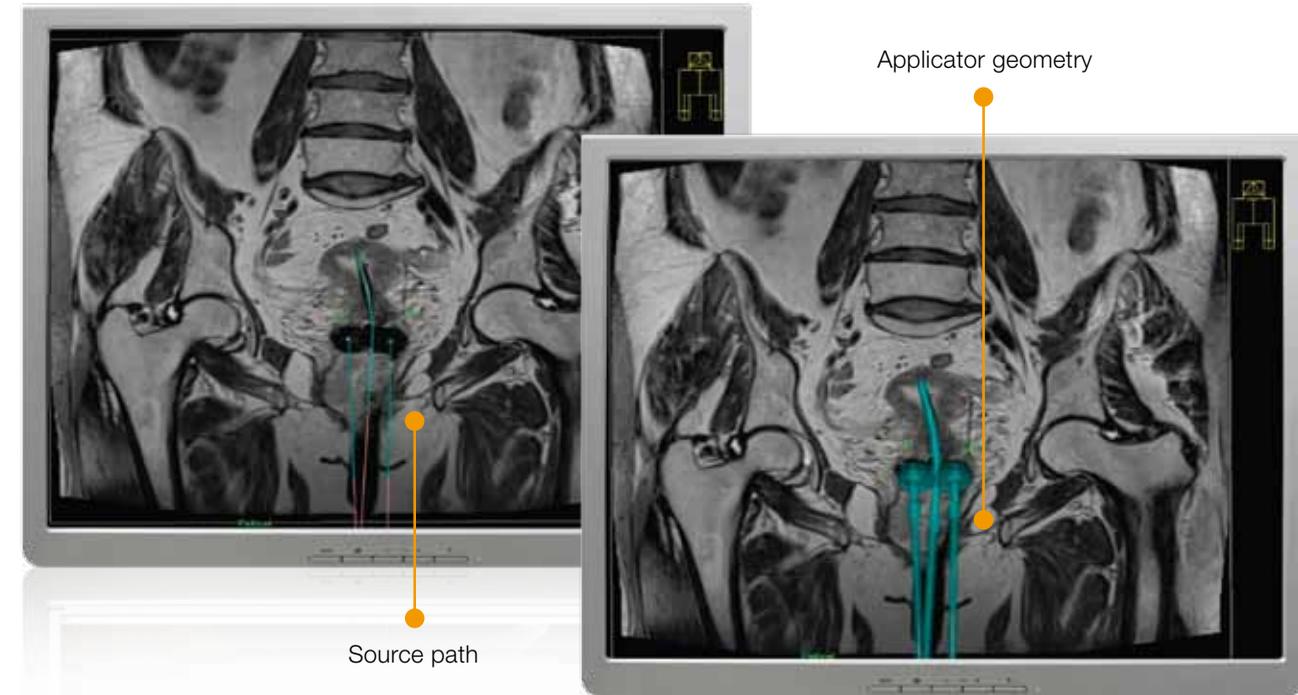
Optimization in Seconds

Inverse planning can be achieved in just a few seconds with IPSA (Inverse Planning Simulated Annealing) for anatomy-based optimization. IPSA has changed the philosophy of optimization to anatomy and dose distribution, where the focus previously used to be on dwell positions and dwell times. This approach facilitates direct control of the compromises between target coverage, dose homogeneity and optimal protection of organs at risk, instead of having to manually adjust dwell positions and dwell times. This change of perspective focuses the attention on the anatomy and the dose distribution, bringing the treatment planning process closer to the important clinical issues.

Applicator modeling

Oncentra Brachy now offers the possibility to visualize the complete 3D geometry of the applicator and the exact source path. With this new tool you can simply drag and

drop your applicator within the treatment plan, saving you time in applicator reconstruction, and reducing the risk of error from manual reconstruction.



Complete overview
Applicator modeling
in combination with
library plans

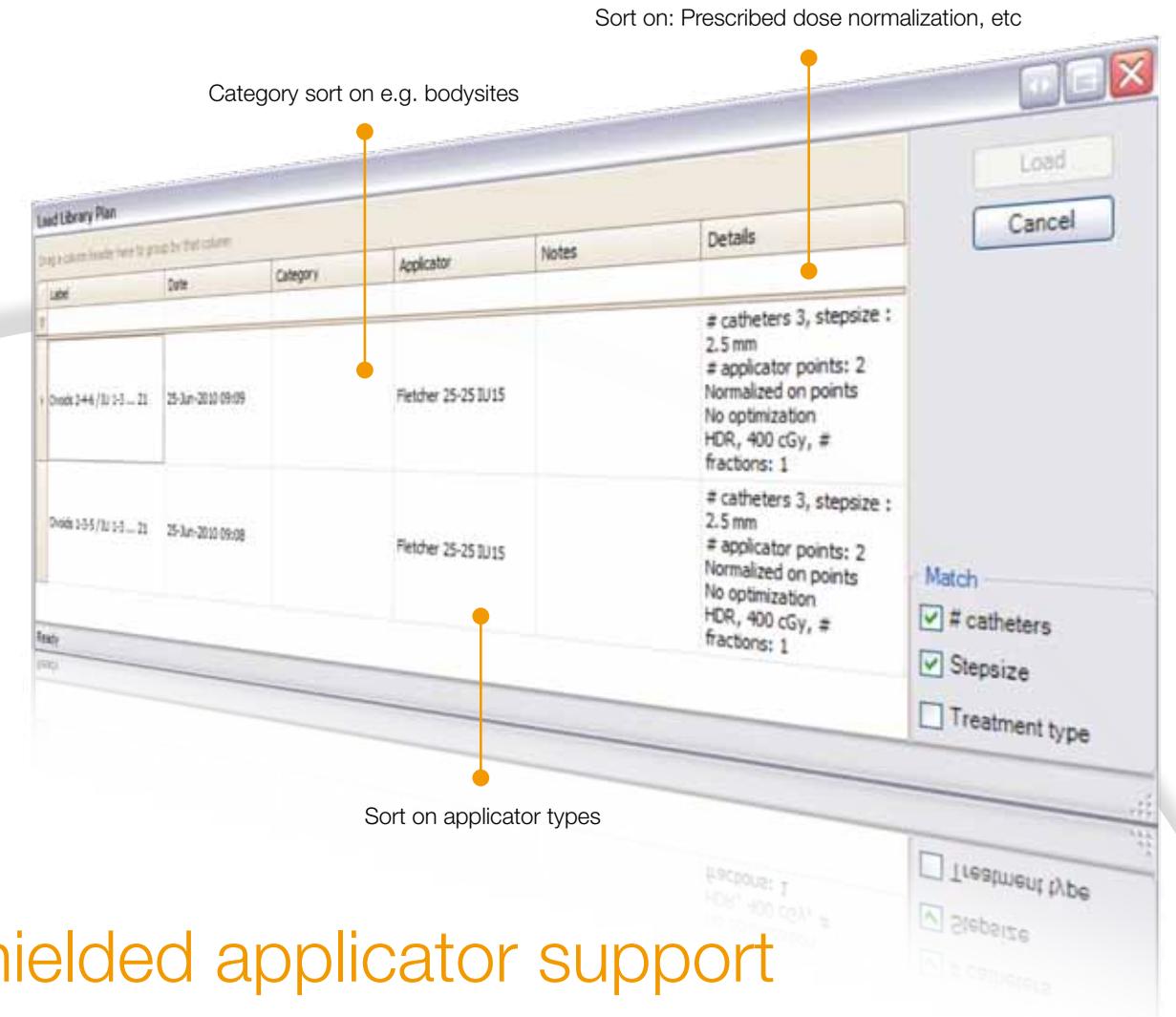
Benefits:

- Automated reconstruction
- Exact 3D geometry of the applicator
- Reduces risk of error
- Saves a lot of time

Library plans

With one single mouse click you can select a plan with predefined parameters, such as dwell positions, prescribed dose and more. All in just a matter of seconds, decreasing the time needed for planning even further.

A smart sorting mechanism allows you to quickly find the library plan that best suits your patient. The library plans can be exported and shared for easy reference.

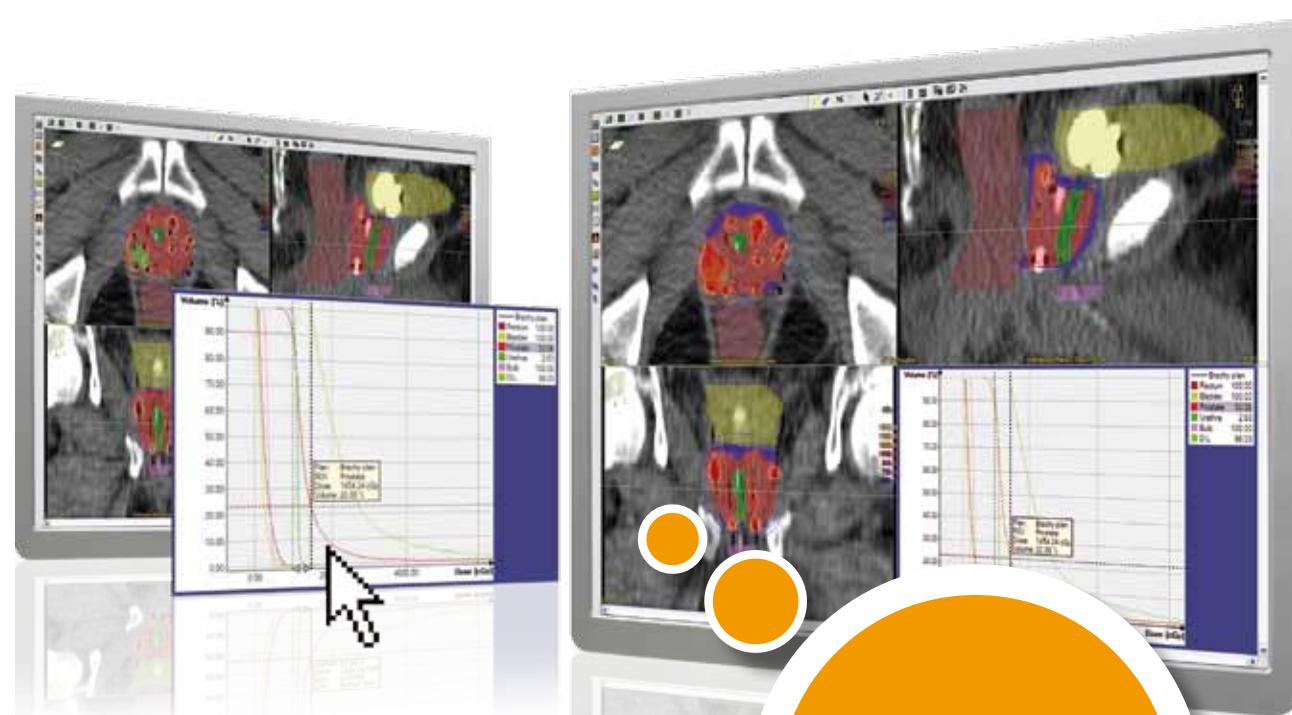


Shielded applicator support

An improved interface enhances the visualization and planning of shielded applicators. Applicator modeling allows you to easily drag and drop the applicator with the correct shields into the imaging set.

Output manager

Oncentra is designed for a paperless environment. The new output manager allows template customization for both digital and hardcopy dose distribution output. Other additional functionalities such as dwell time/weight optimisation using bar graphs and image smoothing filters are implemented.



Real-time plan evaluation

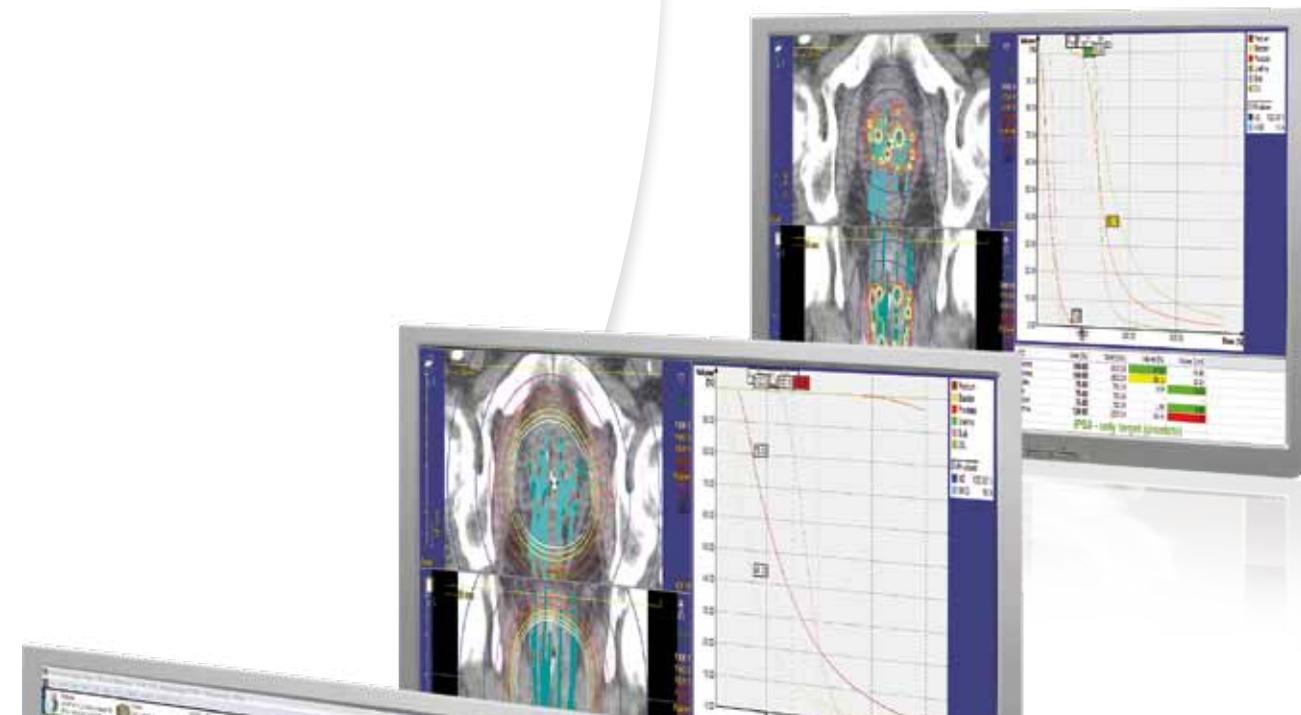
The Plan analysis module offers full flexibility for the comparison, summary and subtraction of plans, doses and dose volume histograms. Plans and doses can be reviewed on any user-defined plane, side by side or in any user-defined viewing workspace, whether on a single or dual monitor. Using the 'Cold & Hot Spot' functionality,

Easy determination of cold and hot spots.

the physician can instantly determine the quality of the plan and redefine optimization settings if required. The 'Live dose' tool provides instant feedback on specific dose levels and values across the planes and simultaneously in 3D view.

Dose evaluation of DICOM-compliant systems

The Evaluation workspace facilitates the import, viewing and evaluation of DICOM RT objects, such as RT images, RT structure sets, RT plans and RT doses. In addition, it allows for the importation of DICOM RT objects from other treatment planning systems.



DVH Markers

DVH presets enable intuitive evaluation of the treatment plan objectives in just a matter of seconds.

Marker types such as D90, V100, etc can be defined by the user, as well as the values for different thresholds of a marker value. The user can then easily identify whether his/her objectives for the treatment plan are met with the corresponding color of the marker.

Benefits:

- Plan evaluation based on DVH
- Fast and intuitive evaluation of all treatment objectives

Colors indicate achievements of the DVH presets.

"Oncentra Brachy is an absolute time saver. The time it takes to complete a breast multicatheter implant has been cut down by 50% compared to PLATO."

Sujatha Pai, Director, Division of Medical Physics,
Memorial Hermann Cancer Centers, Houston, USA

"Oncentra Brachy has given us the opportunity to explore new treatment techniques for brachytherapy planning that we could not implement before."

Academic Medical Center, Amsterdam

"The whole system is designed to be easy to learn and to use."

Ian Hodgetts, Radiation Therapist,
The W.P. Holman Clinic, Launceston General Hospital,

Committed to Brachytherapy, today and for the future

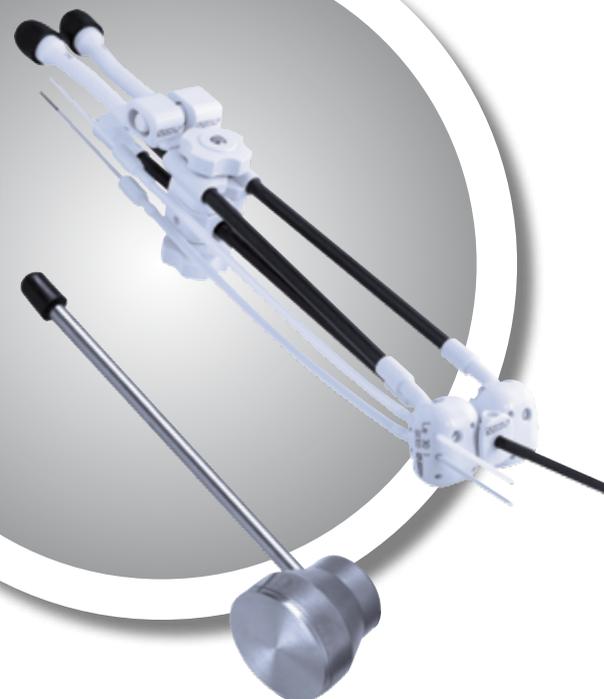
Nucletron's commitment to brachytherapy entails providing you with the latest innovations in precision radiotherapy treatment for your patients.

Our aim is to provide you with all-in-one solutions for many body sites, alongside a full range of service and support.

Oncentra
Treatment
Planning



Applicators
and
Accessories



Flexitron
Afterloader



microSelectron
Afterloader

