



mim  
**Maestro**<sup>™</sup>  
unlimited

Radiation Oncology Department Solution



# Why MIM?

Leading radiation oncology centers around the world are switching to MIM to maximize efficiency and take advantage of cutting-edge tools throughout their entire workflow.

MIM leads the industry with the innovation of new features, customer support, clinical automation, and workflow customization. Our powerful automation tools save you valuable time.

We understand your need to provide the best patient care possible and we have the tools to help you get there. MIM Maestro™ provides a comprehensive set of oncology tools that are not available in treatment planning systems.

MIM offers a central software package that puts oncology tools in one place to be utilized together. With customizable workflows and reports, users can automatically generate documentation and make workflows much more efficient.

Whether unifying an environment with multiple vendors or supplementing a single treatment planning system, MIM Maestro's deformable innovations provide users with a best in class, vendor-neutral solution.

**MIM Maestro offers tools to help you every step of the way, including:**

- **MIM Assistant™** - Automatically process incoming patient data using workflows.
- **Reg Refine™ & Reg Reveal™** - Patient specific registration QA with Reg Reveal. Handle the most difficult deformable registrations with Reg Refine.
- **4D Binning and Contouring** - Amplitude & phase-based binning with automatic ITV generation.
- **Customizable Workflows** - Personalize and optimize processing, auto-contouring, and display.



## Deformable Innovations

For years, MIM has been a pioneer in the radiation oncology market with our deformable innovations. With tools such as VoxAlign, Contour CoPilot™, Reg Reveal, and Reg Refine, users can be confident in making critical decisions in even the most complicated treatment scenarios.

*"With MIM Maestro, we have greatly improved the quality of our fusion and contouring, and the time required for treatment planning has been significantly reduced."*

**CECILE ORTHOLAN, MD**

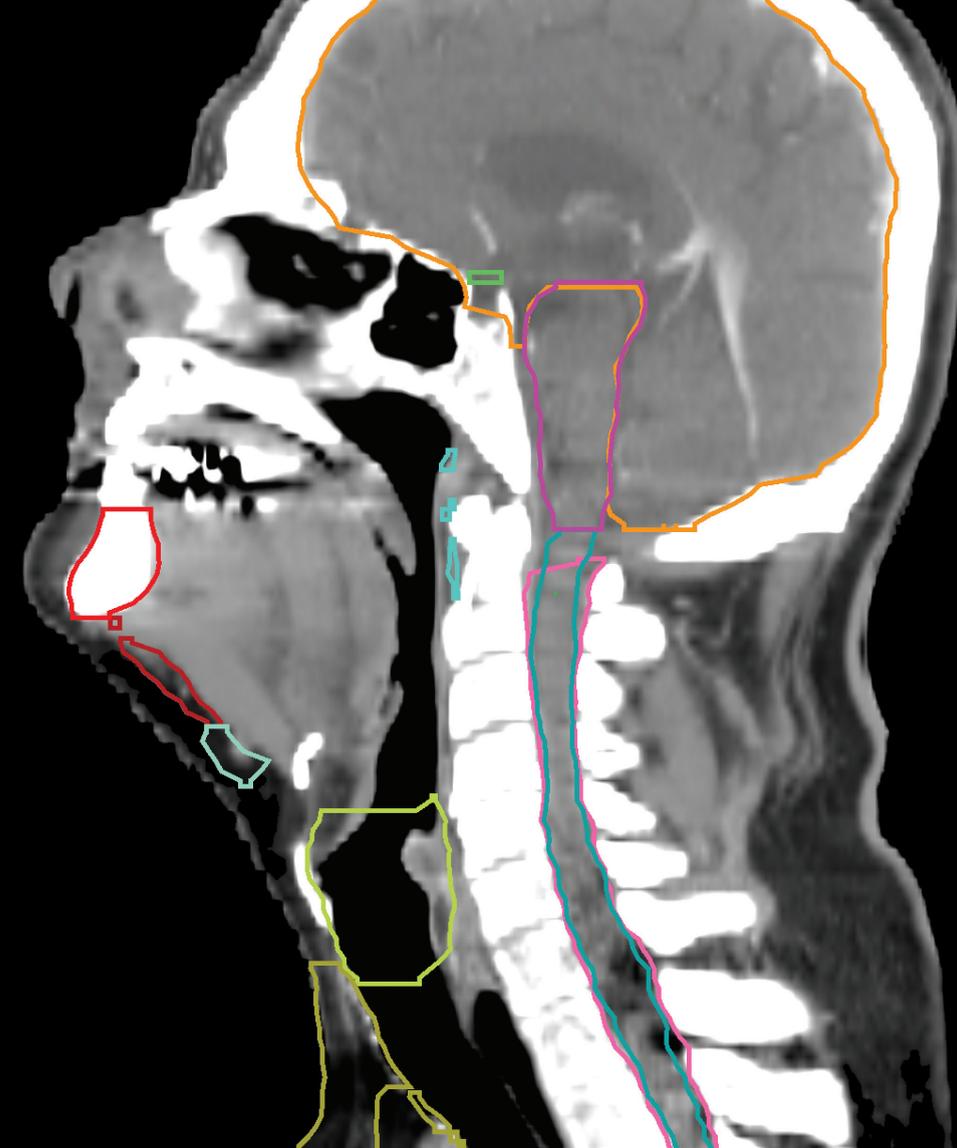
Princess Grace Hospital  
Principality of Monaco

# VoxAlign™

The VoxAlign Deformation Engine™ includes the first commercially available deformable registration algorithm tuned for CT-CT registration. This algorithm utilizes more information from the images to guide the registration to a more accurate result.

Unlike a mutual information approach, our intensity-based method uses the entire CT contrast window for matching the two scans. Additionally, by providing millions of degrees of freedom for the registration, both local and global changes in anatomy can be accounted for. While most algorithms with this level of accuracy would require hours to execute, our implementation typically takes just seconds.

*The power of the VoxAlign Deformation Engine is behind all of MIM's innovative deformable tools.*



# Auto Contouring

**Customize your own atlas libraries.**

Atlas-based segmentation in MIM was among the first automatic contouring tools of its kind to reduce the contouring time brought on by IMRT. MIM provides atlas libraries to ensure the utmost in timesavings and consistency for your department. As the only truly customizable solution, MIM Maestro allows you to build your own atlases with your previously contoured patients.



# Adaptive Re-contouring

**Plan in minutes, not hours.**

With MIM, adaptive replanning has become a practical clinical reality for many centers. MIM was the first software tool to automatically generate entire structure sets, including target volumes, on mid-treatment planning CTs. Now, replanning takes minutes instead of hours.



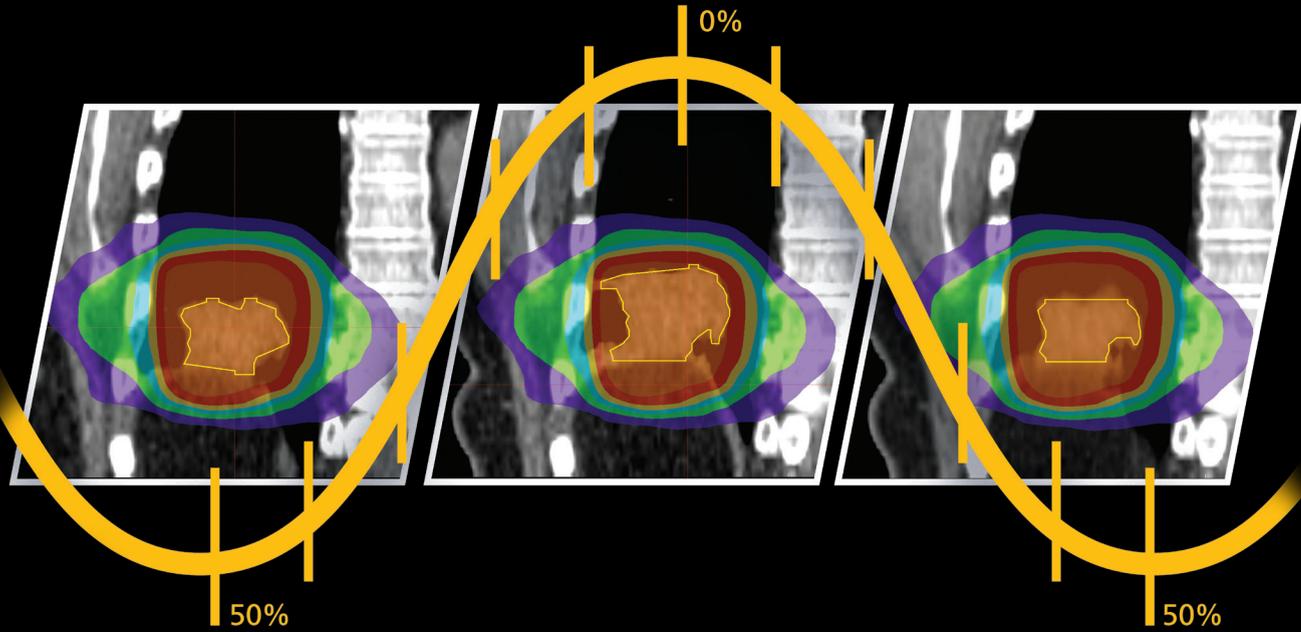
**Deform edits from one slice to the next.**

MIM's Contour CoPilot tool deforms a contour from one slice of a CT or MR to the next, offering predictions on how you would contour the next slice. By seamlessly fitting into any contour editing workflow, Contour CoPilot has become an indispensable time-saver for creating contours in any part of the body.

# 4D Binning

**Complete all of your 4D processing in one system.**

With MIM Maestro's 4D binning feature, you can automate phase-based and amplitude-based binning and reduce dependency on acquisition workstations. Automatic contour propagation allows contouring on one gated phase to be deformed to all gated phases in less than a minute. Contours on each gated phase can then be combined with a single click to create a clinically relevant ITV. This accurately represents the full range of motion of the tumor during the different phases of the patient's breathing cycle. PET/CT, MR, and dose can be registered to any single phase, max IP/mean IP, or ciné simultaneously.



 **Reg Reveal**<sup>™</sup>  
Patent Pending

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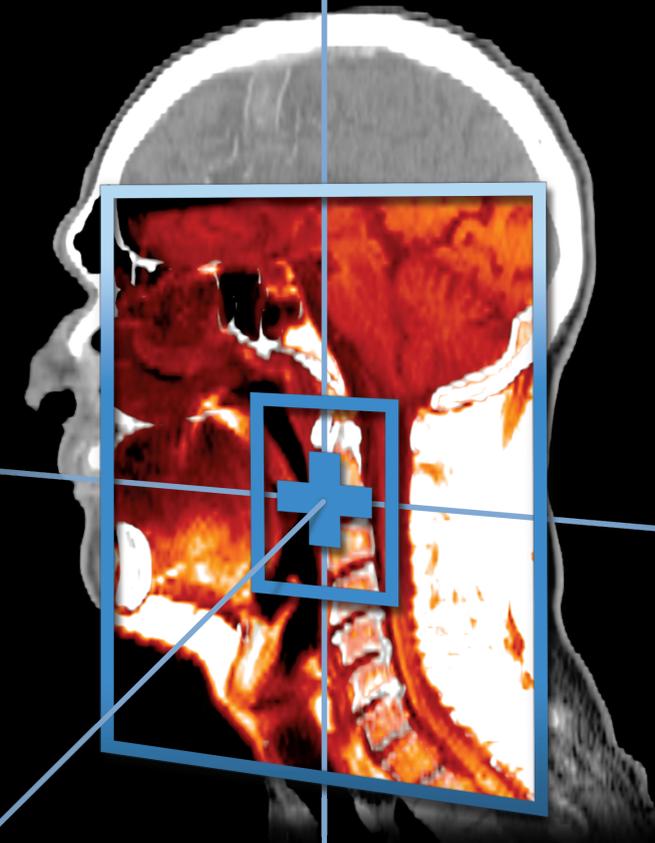
 **Reg Refine**<sup>™</sup>  
Patent Pending

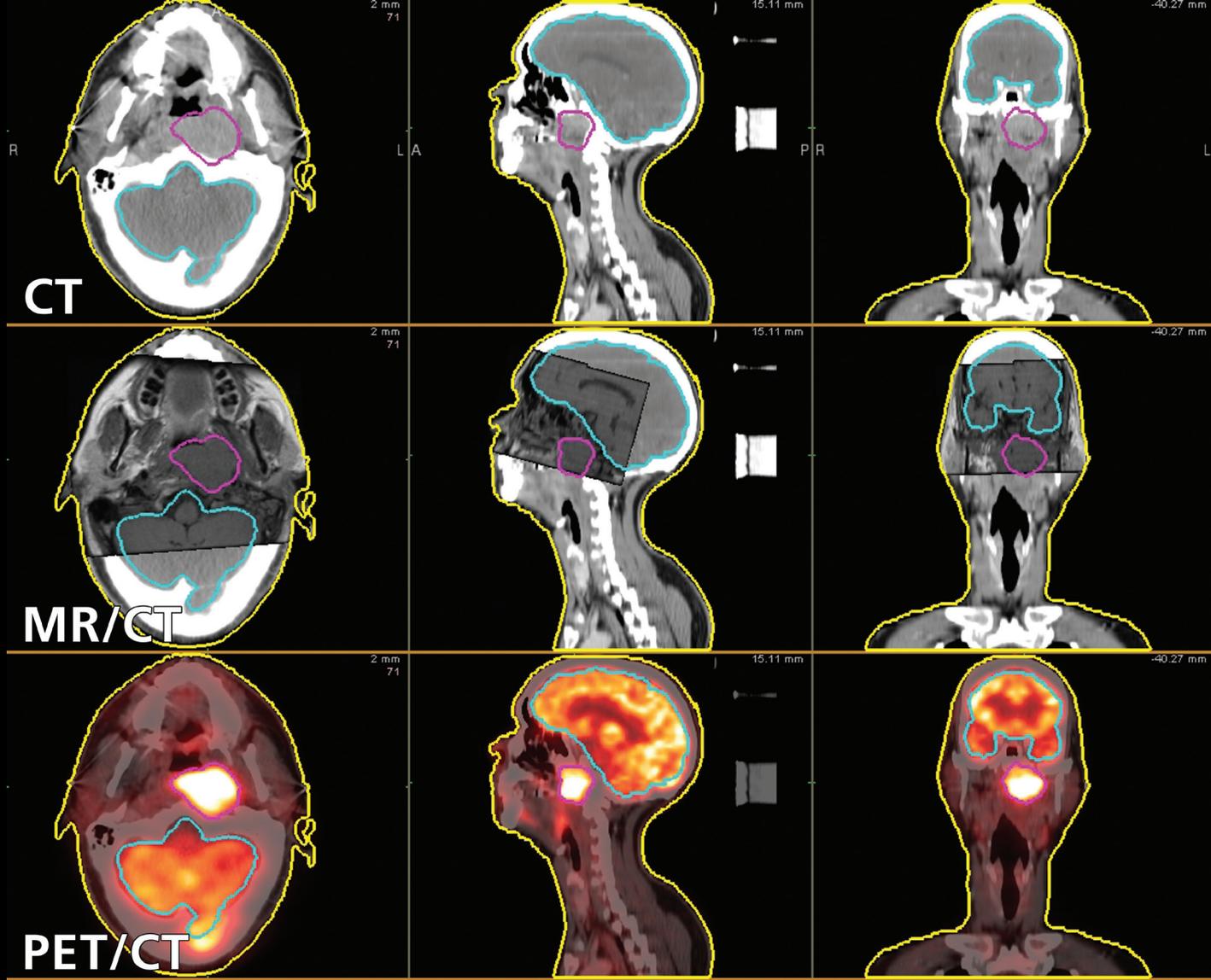
**Don't deform without them.**

Reg Reveal is the first and only environment for patient-specific deformable registration quality assurance and reporting. This tool allows you to check the results of your deformable registration, giving you an assurance no other software provides.

Reg Refine takes deformable registration a major step forward by allowing clinicians to not only detect areas where deformation is less than optimal, but also to correct them. The unique ability to repeatedly perform deformable evaluation and correction has fundamentally changed how deformable registration can be implemented for critical tasks such as dose accumulation or diagnostic image registration to planning CTs.

Now, any pair of images can be registered to one another and you can have confidence in the accuracy of the results. With Reg Reveal and Reg Refine, even the most challenging deformable image registration tasks can be accomplished.





CT

MR/CT

PET/CT

# MR/CT Deformable

**Have confidence in the accuracy of your results.**

Accurate multi-modality deformable registration is not an easy problem to solve. Before the introduction of Reg Reveal, an even more challenging dilemma was knowing when it worked and when it didn't.

Now, with Reg Reveal and Reg Refine, MIM provides a platform where you can have confidence in the accuracy of MR to planning CT deformable registration.

# PET/CT Deformable

**PET target volume contouring at its best.**

From the initial PET/CT alignment to contouring GTVs, MIM Maestro provides a solution



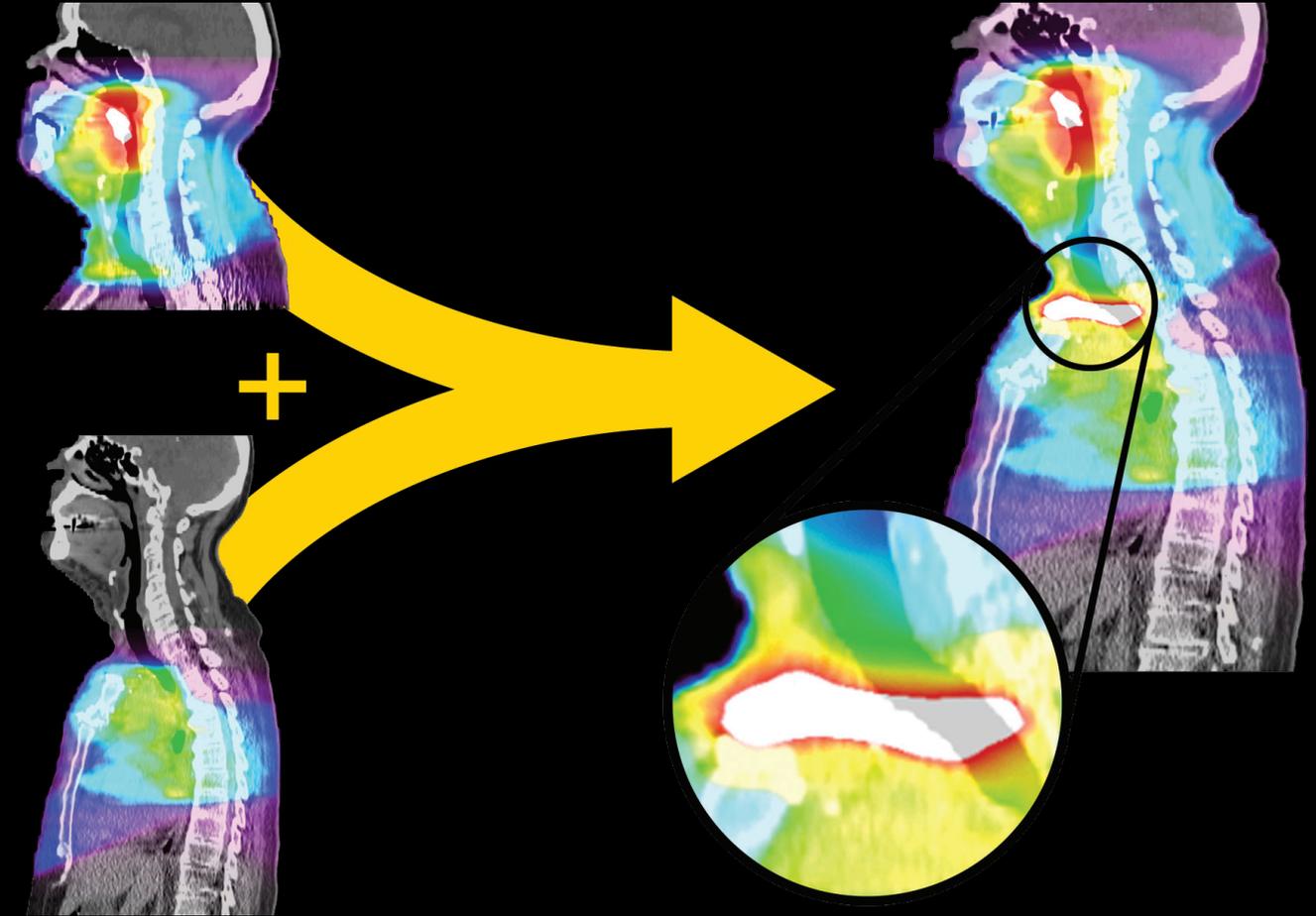
for integrating PET images with the treatment planning CT. PET Edge™, a MIM-specific tool, provides accurate and consistent contouring of PET avid lesions. PET Edge is a gradient-based

technique that detects the steepest drop off in PET activity to create the contour boundary automatically, making it statistically more accurate than a common thresholding technique. This tool provides consistent results for physicians when drawing tumor volumes on PET images, regardless of visual contrast.

# Dose Accumulation

**Deformably accumulate any number of plans.**

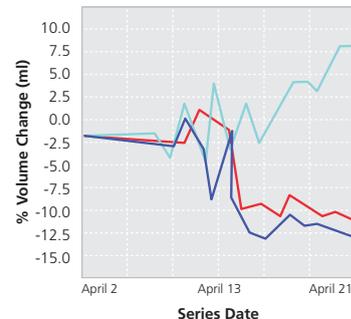
With MIM Maestro and our VoxAlign Deformation Engine, you can quickly deform multiple doses and then sum them to your new treatment planning CT in order to better visualize the overall dose the patient will receive. Through MIM's deformation abilities, scans taken months apart can easily be deformably registered to give you an accurate dose distribution, giving you greater confidence in the treatment planning process.



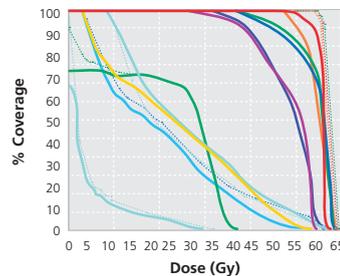
# IGART REPORT

Contour	Constraint Name	Plan Dose	Projected Dose on Plan CT	Change	% Change
Rt Parotid	R Parotid Mean Dose	23.15	20.32	-2.83	-12.24
Lt Parotid	L Parotid Mean Dose	22.81	24.19	1.39	6.08
Cord	Cord Max Dose	40.41	42.24	1.84	4.55
PTV	V100 PTV	75.00	75.00	-29.07	-29.34

Contour Statistics



Cumulative DVH



# Automated Reporting

All of your reporting tools in one place.

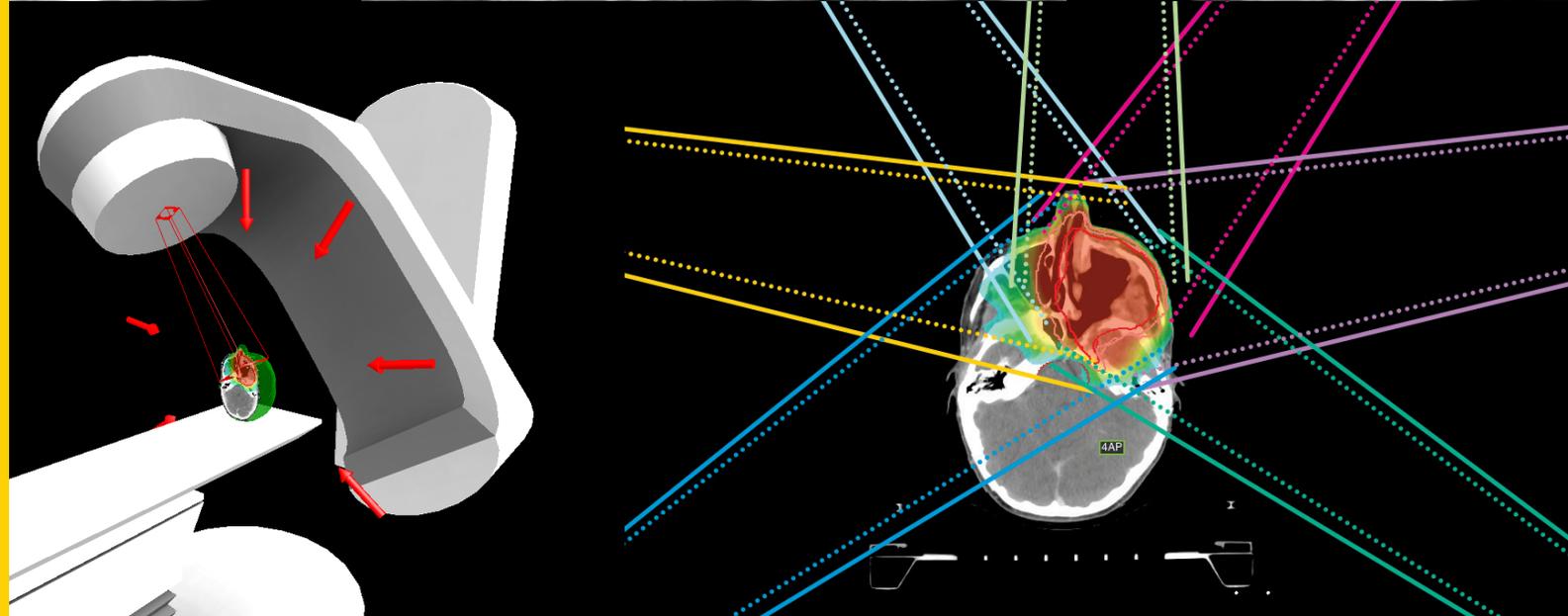
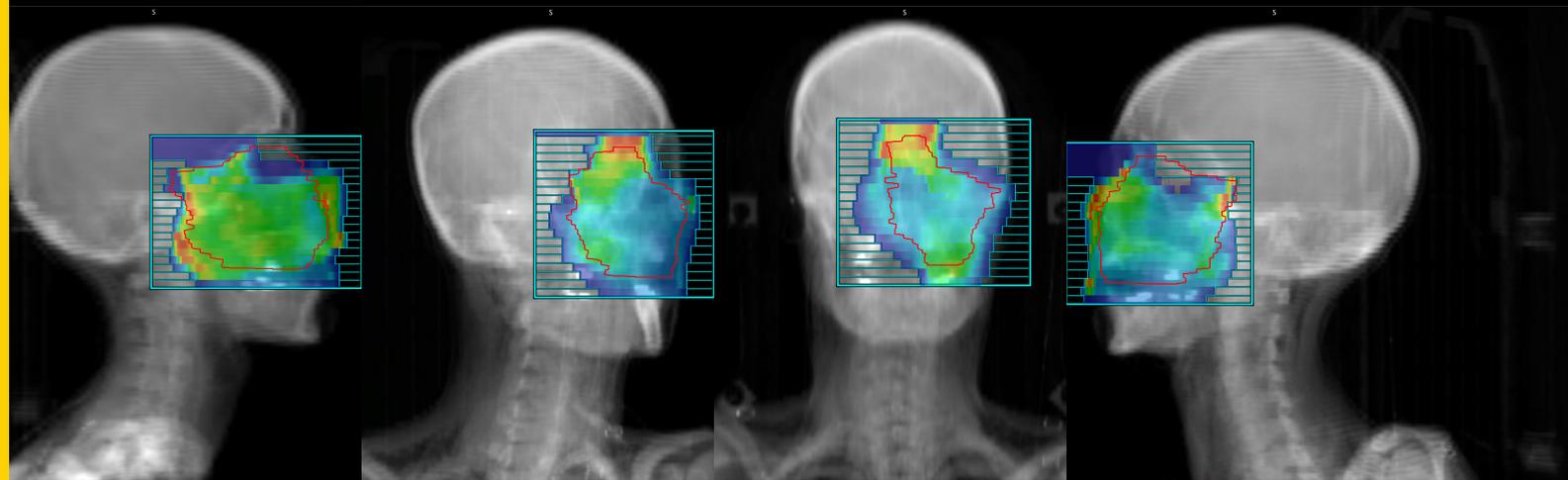
Switching between multiple systems to gather all the clinical information you need in a report can be inconvenient. MIM Maestro has reporting tools that can combine all of your findings from dose distribution to contour statistics in one report that can easily be saved as a PDF for clinicians to review. Each report template is customizable according to your department's needs and only takes minutes to create. MIM's reporting tools can make your workflow more efficient by automatically displaying the information you'd like to share.

## ART Assist™

Ensure treatment planning is going as planned.

ART Assist™ is MIM's fully customizable, automated processing and reporting tool designed to automatically quantify changes to a patient over the course of radiation delivery. Previously, the process for determining when and whether to adapt a patient's plan was limited by the time required to generate relevant quantitative information based on daily imaging.

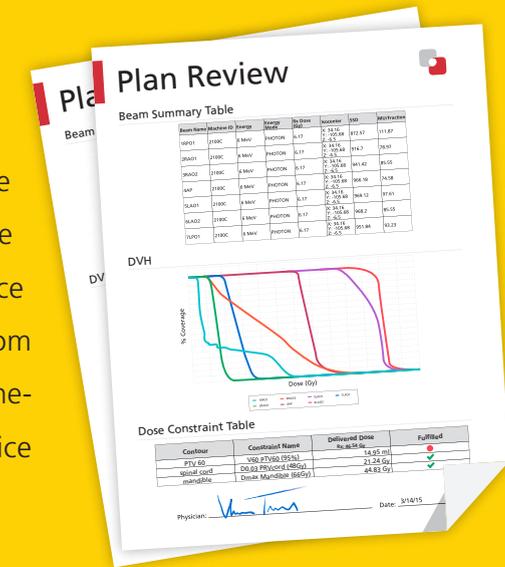
Now, changes in critical structures and dose constraints can be tracked over the course of treatment, compared to the original plan, and plotted in automatically generated reports. ART Assist makes true dose-guided adaptive radiation therapy possible.



# Plan Review

Review all aspects of your dose plan.

With MIM Maestro, you can review all your treatment plans in one place. Contours, isodose curves, DVH, beam angles, beam's eye and room's eye view, and DRR images can all be reviewed. Since MIM is vendor-neutral, you can import your treatment plans from any TPS. MIM Maestro's Plan Review features provide you with one-click plan report generation. Plans can be reviewed from your office or any remote location with a mobile device or tablet.



Plan Review & Tumor Board

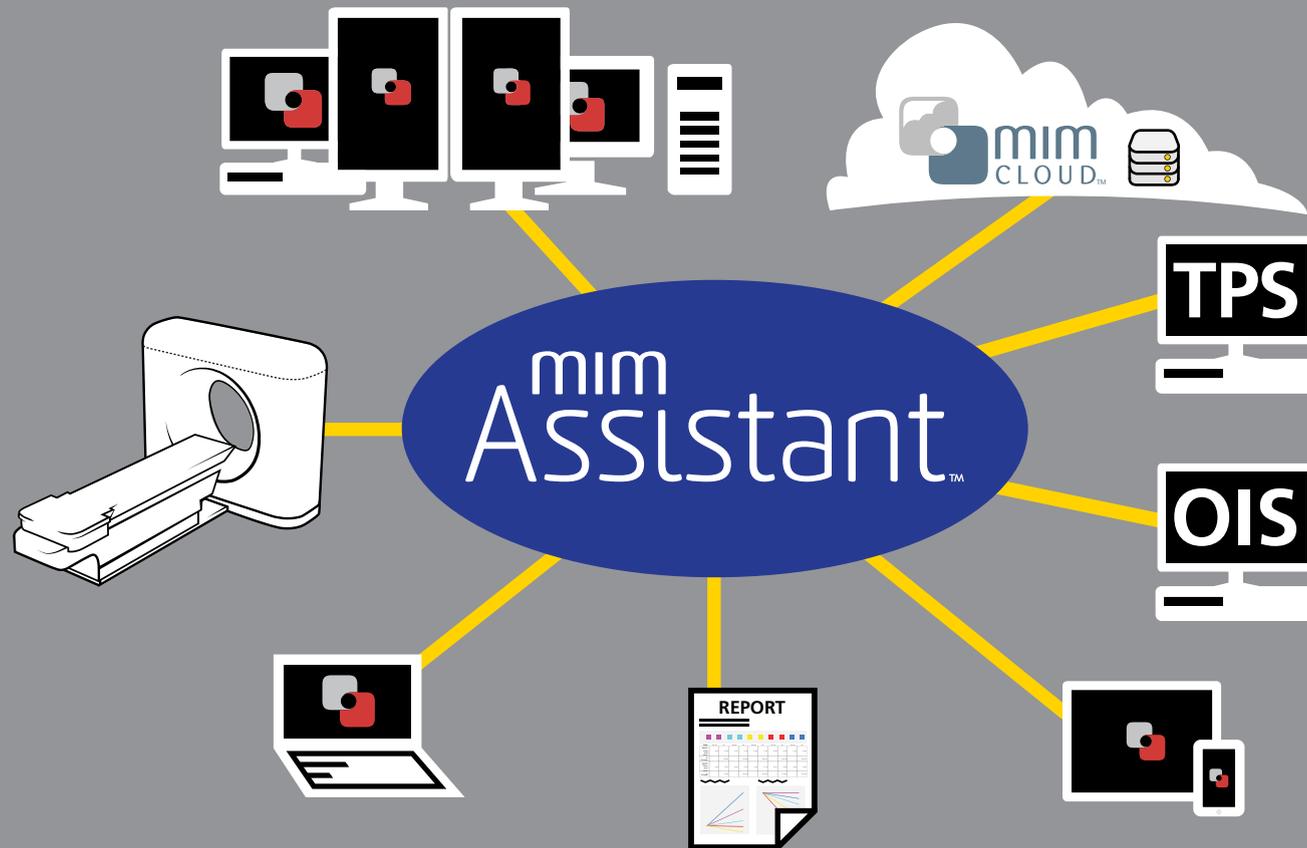
# Tumor Board

Easily access cases for review.

Collecting and preparing all the various imaging, reports, and plan information for chart rounds and tumor boards can be an arduous task. With MIM, it's as simple as loading pre-saved patient sessions. Any image registrations, contours, DVHs, accumulated doses, or reports can be quickly accessed, organized, and reviewed in meetings.

# mim Assistant™

Automatically process incoming patient data.



## Clinical Workflow Management

With MIM Assistant, users can discover the power of automation by easily creating a rule-based environment that will automatically process incoming patient data and run MIM workflows. Common examples include auto-contouring a CT and saving the structures to the patient list, or fusing images for review as soon as you arrive at your workstation. Plan reports can be automatically generated when patient data is received and automated rules and filters can be set in minutes and tested before they're scheduled for use. This customizable utility allows users to create their own scenarios for automation.

## Data Management

MIM Assistant provides data storage, automatic querying for diagnostic images, and automatic routing and fetching protocols. You can also automatically sync to MIMcloud™ and compress data transfer to ensure quick access to the data you need.

## User Management

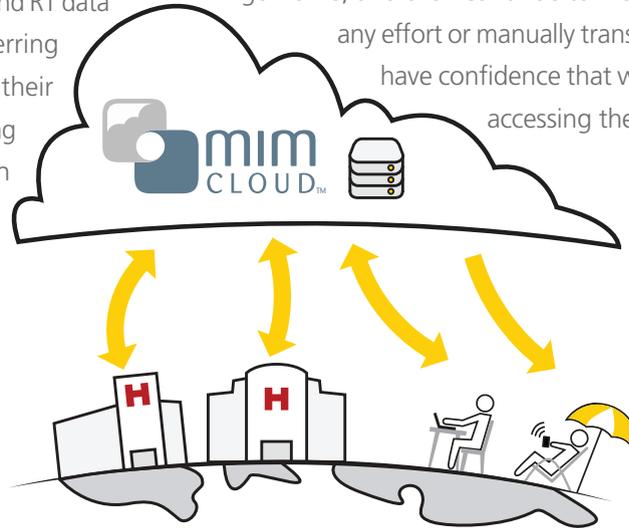
MIM Assistant enables LDAP/AD integration using existing permissions, profiles, and login credentials. Single sign-on is supported for this integration. Preferences, workflows, and privileges can be managed for different users. The MIM task-list functionality allows you to assign studies to users or statuses to studies to coordinate your planning process.

# MIMcloud™

**Store all your patient data in one place.**

MIMcloud is a secure, internet-based medical image service that provides an easily accessible resource for storing, sharing, and viewing your data. With MIMcloud, all images and data can be accessed securely from any remote location. Any work or plans can be saved back to the cloud with no VPN required. Users can contour and review plans remotely using the same state-of-the-art MIM tools available at the office.

MIMcloud allows you to easily share images and RT data securely with affiliated institutions and referring physicians. Patients can be given access to their exams via a mobile device or the web and imaging and plan data can be backed up in an emergency situation. Remote backup of your patient data is essential in case of a catastrophe, and MIMcloud is the easiest way to protect that data.



## MIMcloud Mirroring

**Automatically sync your local patient lists with your MIMcloud™ account.**

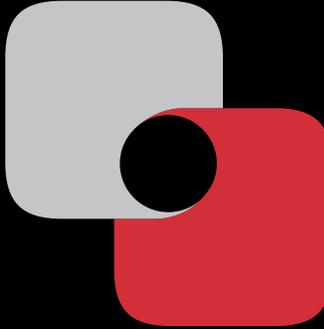
With MIMcloud Mirroring, you can automatically sync a local MIM database to MIMcloud. This is an automated process that allows users to work from anywhere seamlessly without worrying about the physical location of the data. A physician can be working in the office, save their progress, go home, and then continue to work where they left off without any effort or manually transferring the data. Now, you can have confidence that wherever you use MIM, you are accessing the same data.

*“A fundamental goal for our company is to provide superior customer service. I never, ever, want to leave a customer unsatisfied. Our sales people and applications specialists work very closely with our engineers; and together they all work in customer service. All our people know our products of course, but just as important, they know our customers’ needs and problems.”*

**DENNIS NELSON, PhD**  
**Founder & President**  
**MIM Software Inc.**



Want to learn more? Call us today at **866-421-2536** or visit **mimsoftware.com** to discover what MIM Maestro can do for you.



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