

Panther DAO Intelligent IMRT

The only economical and efficient IMRT solution



“The jaws-only approach can serve as a viable IMRT delivery technique for clinics without a multileaf collimator. In some cases Jaws-Only IMRT is able to produce similar plan quality to that provided with a traditional multileaf collimator based IMRT. In particular, Jaws-Only IMRT may prove useful for tangential breast IMRT and in prostate IMRT.”

**M.A. Earl, M. K. N. Afghan,
C. S. Yu, Z. Jiang and D. M. Shephard,
“Jaws-only IMRT using direct aperture optimization,”
University of Maryland School of Medicine,
Department of Radiation Oncology, Med.
Phys. 34(1), January 2007**



“... inverse IMRT plans using conventional jaws are clinically feasible, achieving better plan quality than 3D-CRT plans. For centers where MLCs are not available, using conventional jaws to deliver IMRT plans can be a great option...”

**Yongbok Kim, Lynn J. Verhey and Ping Xia,
“A feasibility study of using conventional jaws to deliver IMRT plans in the treatment of prostate cancer,” Phys. Med. Biol. 52(2007) 2147-2156.**

Treat Your Patient Using IMRT Without the Expense of an MLC

Now you can develop plans comparable to traditional IMRT plans, without using a MLC. Panther Intelligent IMRT is ideal for facilities that wish to deliver IMRT plans, but do not have an MLC.

Prowess’ unique Intelligent IMRT uses only the jaws of the collimator to shape the beam, effectively eliminating the need for any other beam-shaping device, including an MLC or block.

Savings of Hundreds of Thousands of Dollars

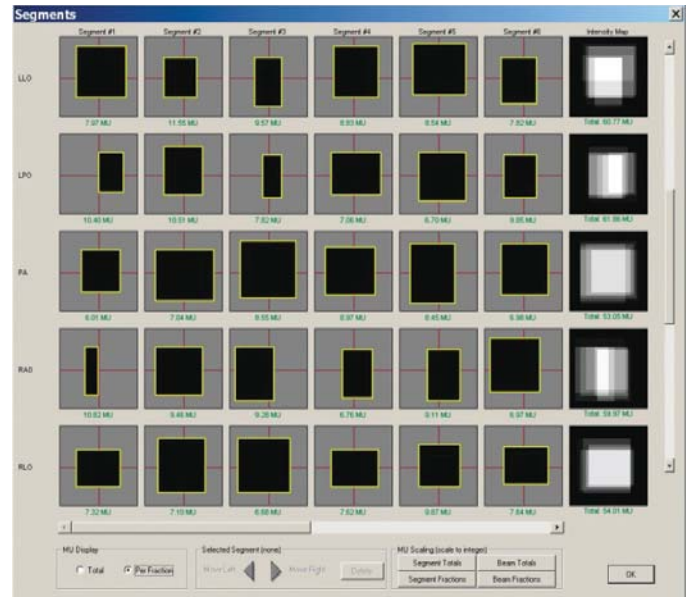
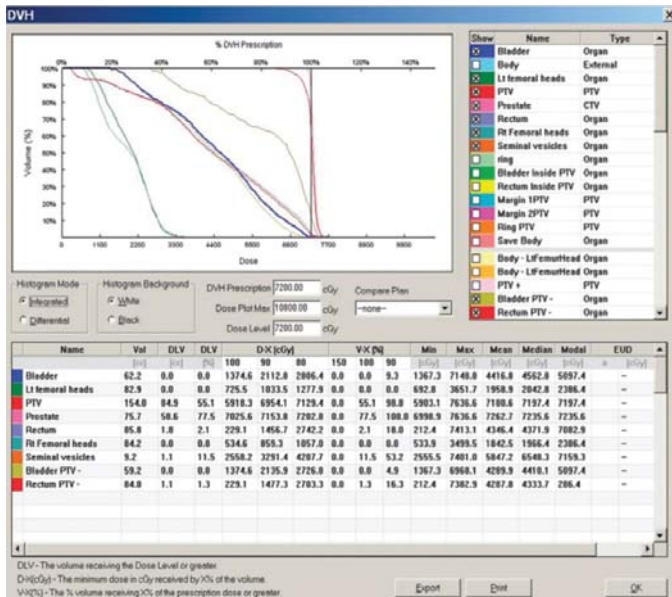
An MLC attachment for a linear accelerator can cost several hundred thousand dollars. Many clinics have delayed the implementation of IMRT treatment planning because of the significant investment in additional equipment necessary to deliver IMRT plans. Panther Intelligent IMRT makes it possible for cancer treatment centers to offer IMRT, without incurring the additional equipment costs of an MLC.

Determining whether a Record & Verify system (R&V) and an Auto Field Sequencer (AFS) are necessary would depend on the number of treatments being delivered by your facility and the complexity of the plans.

Benefits of Intelligent IMRT Over Conformal Therapy

- Improved plan quality
- Improved patient comfort due to reduced treatment time
- Save time and money by not making blocks
- No need to go in and out of the treatment room to replace blocks / wedges during treatment
- No electron contamination created from the blocks / wedges
- The motor of the Jaws has proven to be very reliable, and easily lasts for 5 or more years

This technology is patented by Prowess Inc. (Patent No. 7,180,980)



Key Features

- MLC is not needed for the IMRT techniques
- Algorithm optimizes the jaw shapes and positions to calculate the fluences in each segment to attain the constraints set
- The Intelligent IMRT plans are of a much superior quality than 3D Conformal plans
- The plan results are equal or very close to the IMRT with MLC
- The Intelligent IMRT uses the advanced DAO technology so there is no deterioration in the quality of the plan
- Single window interface for the complete optimization procedure
- Eight different types of constraints supported, including Equivalent Uniform Dose (EUD)
- Live graphical user interface to alter constraint parameters during the optimization cycle in real time
- Quick convergence ability of the algorithm reduces the time for optimization
- Can stop, quit and continue optimization as needed
- Constrain Libraries supported
- User selectable number of segments
- Voxel spacing as small as 1mm x 1mm x CT slice thickness
- Display of fluence maps for each selected segment of the beam in BEV
- Tabular display of sequential fluences for the segments of each beam
- MU Display for each of the segments in total or per fraction
- Ability to allow user to change the sequence of the segments in any of the beams
- Plan template managers allow saving and retrieval of IMRT plans at ease
- One button push to IMRT phantom for QA
- Non-coplanar beams support for IMRT

Standard Features

- Fully DICOM 3.0 and DICOM RT compliant for import and export
- Support for CT, MRI, PET images
- Automatic Image Fusion by maximizing Mutual Information
- Plan with up to five fused and registered image series
- Support up to 60 contours
- Undo, Redo contouring utility
- Create new volumes with Asymmetric margins and Boolean operators
- 512 x 512 DRR with enhancement tools
- Single interface window throughout the planning procedure
- CT view in 3D with efficient multi-planar reconstruction.
- Plan comparison
- User selectable window layout
- Zoom any view to full screen
- Isodose, Iso-Fill and Colorwash features
- Beam, Plan templates
- Photons and Electrons beams can be combined
- Planning on top of existing dose
- Side by side plan comparison
- DVH comparison and Dose Volume Limit evaluation
- Multiple dose calculation algorithm support
- Relative and Absolute dose values
- User defined calculation matrix
- Non-coplanar beams planning