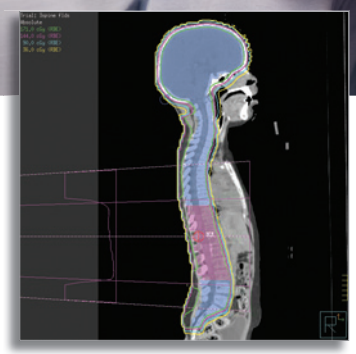


Integrated proton-photon treatment planning

Pinnacle³ Proton Planning

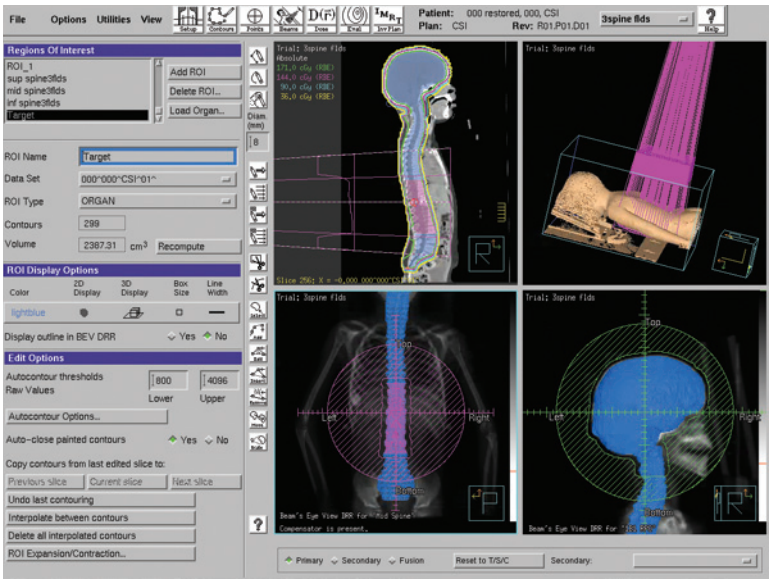
Pinnacle³ is recognized as a trusted treatment planning system for external beam radiotherapy. With a proven track record in accuracy and reliability, it provides confidence to its users independent of the treatment delivery system. Pinnacle³ Proton Planning builds on this reputation. It provides seamless integration between proton and photon planning. It includes a combination of specially designed tools that simplify the commissioning process to accelerate the time taken from procurement to first clinical use as well as daily planning tools that enhance the treatment quality through individually tailored treatment plans.

Key advantages

- Provide **confidence** for integrated photon-proton planning in a **trusted environment**
- **Accelerate** clinical adoption with reduced effort through **simplicity** of commissioning
- Enhance **treatment quality** through **individually tailored** treatment plans

PHILIPS

Seamless planning and treatment selection



Enhanced sparing of critical structures with Pinnacle³ proton planning.

Seamless integration

Proton Planning is fully integrated within the Pinnacle³ environment. This allows seamless planning from a wide range of clinical applications for multiple delivery devices.

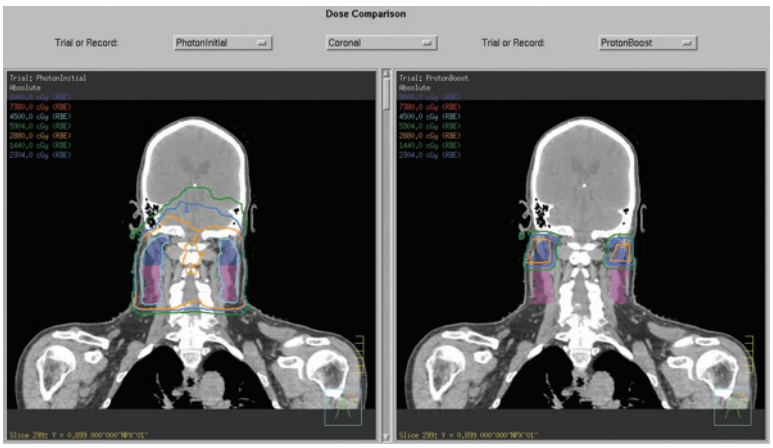
"The interface still has a familiar feel as the photon-only program. Easy to adjust to."

Randy Henderson, MD
University of Florida Proton Therapy Institute, Gainsville, FL

Optimized treatment selection

The dose computation is designed to facilitate composite planning with protons, photons, electrons, and brachytherapy.

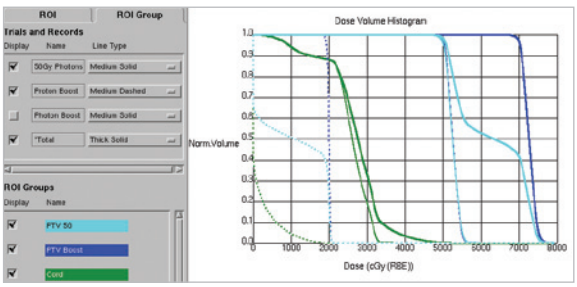
Intuitive visualization tools enable side-by-side comparisons of different plans to determine the preferred treatment protocol.



Proton-photon plan comparison.

"This capability has allowed us to confidently choose the best treatment modality for each patient."

Eric E. Klein, PhD
Professor of Radiation Oncology
Washington University, St. Louis MO



Dose Volume histograms showing the composite effect of a photon plan with a proton boost.

Proton-photon planning

Comprehensive evaluation tools are provided to monitor the dose to the target and critical structures from different plans including photons, protons, and a composite plan.

Designed to simplify commissioning and daily planning

Simplified commissioning

Features such as the generalized SOBP-based modeling reduce the demand for incorporating detailed information of the delivery system and simplify the commissioning process.

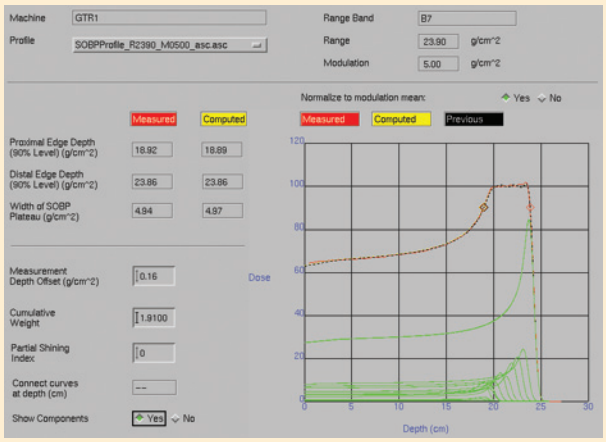
Efficient workflow

Pinnacle³'s implementation allows efficiency gains to conventional planning techniques.

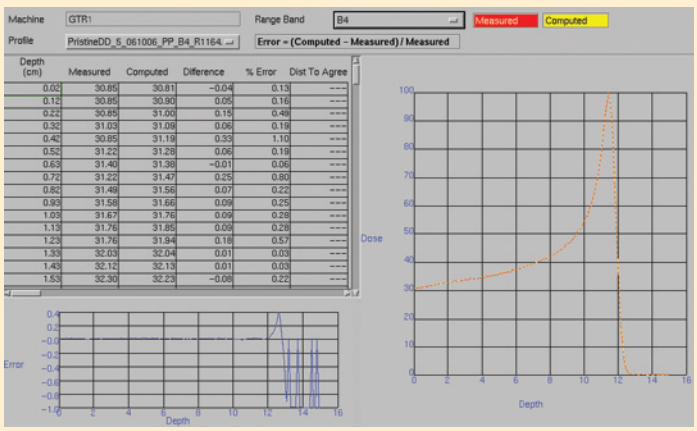
- The simplified commissioning process reduces time and effort for clinical implementation.
- Automated contouring with Auto-Segmentation with SPICE streamlines the contouring process to just a few fast clicks, providing consistent contours in minutes that require little or no editing.
- The ability to automate repetitive processes through scripting provides consistency of plan and streamlined workflow.
- Fast assessment and automated re-planning tools provided by Dynamic Planning generate at-a-glance information to help monitor treatment efficacy and create new plans with limited user intervention to adjust for patient changes during treatment.

Trusted dose computation

The Parameter Linearization process simplifies beam modeling, and the customized pencil-beam dose calculation engine uses a modified Bortfeld Bragg Peak fitting function to enhance accuracy.



Generalized SOBP-based modeling within the physics module.

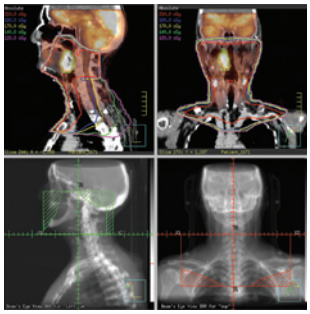


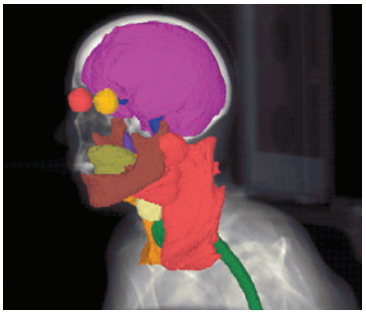
Comparing computed and measured dose profiles within the physics module.

"This is much easier and more user-friendly than other systems I commissioned. A great tool for physics."

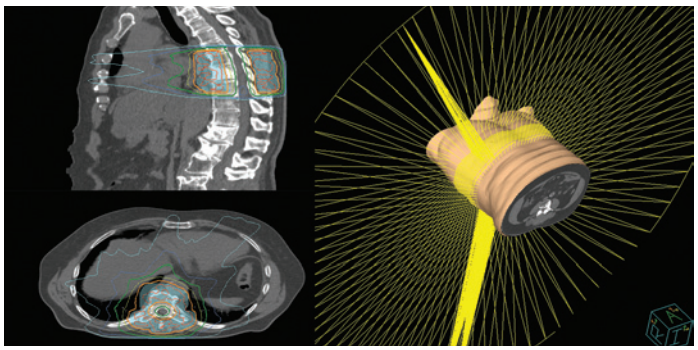
Niek Schreuder, Vice President and Chief Medical Physicist
ProVision Health Partners, Knoxville TN

Benefit from access to all Pinnacle³ functionalities

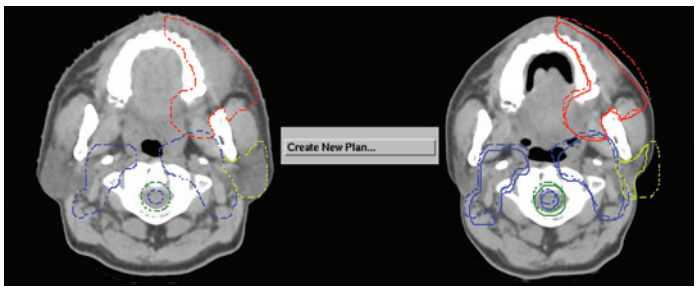




Multi-modality visualization with AcQSim³ and Syntegra; automated contouring with Auto-Segmentation with SPICE.



Composite proton-photon planning with 3D conformal, Pinnacle³ IMRT, and SmartArc.



Fast assessment and automated re-planning of proton plans with Pinnacle³ Dynamic Planning.

SmartEnterprise

Hardware platform for large and distributed proton centers.

Pinnacle³ Professional

Hardware platform for compact proton centers.

Please visit www.philips.com/philips-protonplanning

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