



PHILIPS

Pinnacle³

Auto-Planning

Accelerated IMRT and VMAT planning

Philips Pinnacle³ Auto-Planning overview

IMRT and VMAT planning is labor-intensive, time-consuming, and can produce inconsistent results. Many tedious and repetitive steps requiring significant manual interactions of the planner and physician are needed to create these complex plans, which often delay the start of treatment. Plan quality can vary depending on the experience of the planner or physician, and it can take several iterations to improve the plans based on initial physician feedback. Pinnacle³ Auto-Planning makes this entire process fast, less labor-intensive, and consistently reproducible.

Key advantages

Reduces the total time required to create an IMRT or SmartArc plan

- Replaces exhaustive manual data entry to just a few clicks
- Enhances plan consistency and quality
- Simplifies and standardizes the plan approval process

Accelerate IMRT and VMAT planning with **consistent** results

Pinnacle³ Auto-Planning features smart automation tools that enable the creation of high-quality plans the first time with limited intervention, bypassing the usual time-consuming iterative process. Treatment techniques are selected and applied

from an editable database generated by the site itself. Scorecards provide at-a-glance information on plan quality to evaluate against clinical goals. Results may be easily adapted if required.

Replace **exhaustive** manual data entry with **just a few clicks**

A three-step process reduces the time and effort to create a deliverable plan.

1
Select
Treatment Technique



Automates repetitive data-entry for efficiency and standardization.

2
Run
Auto-Planning



Generates high quality plans at the first pass, reducing planning time.

3
Evaluate
with Scorecard

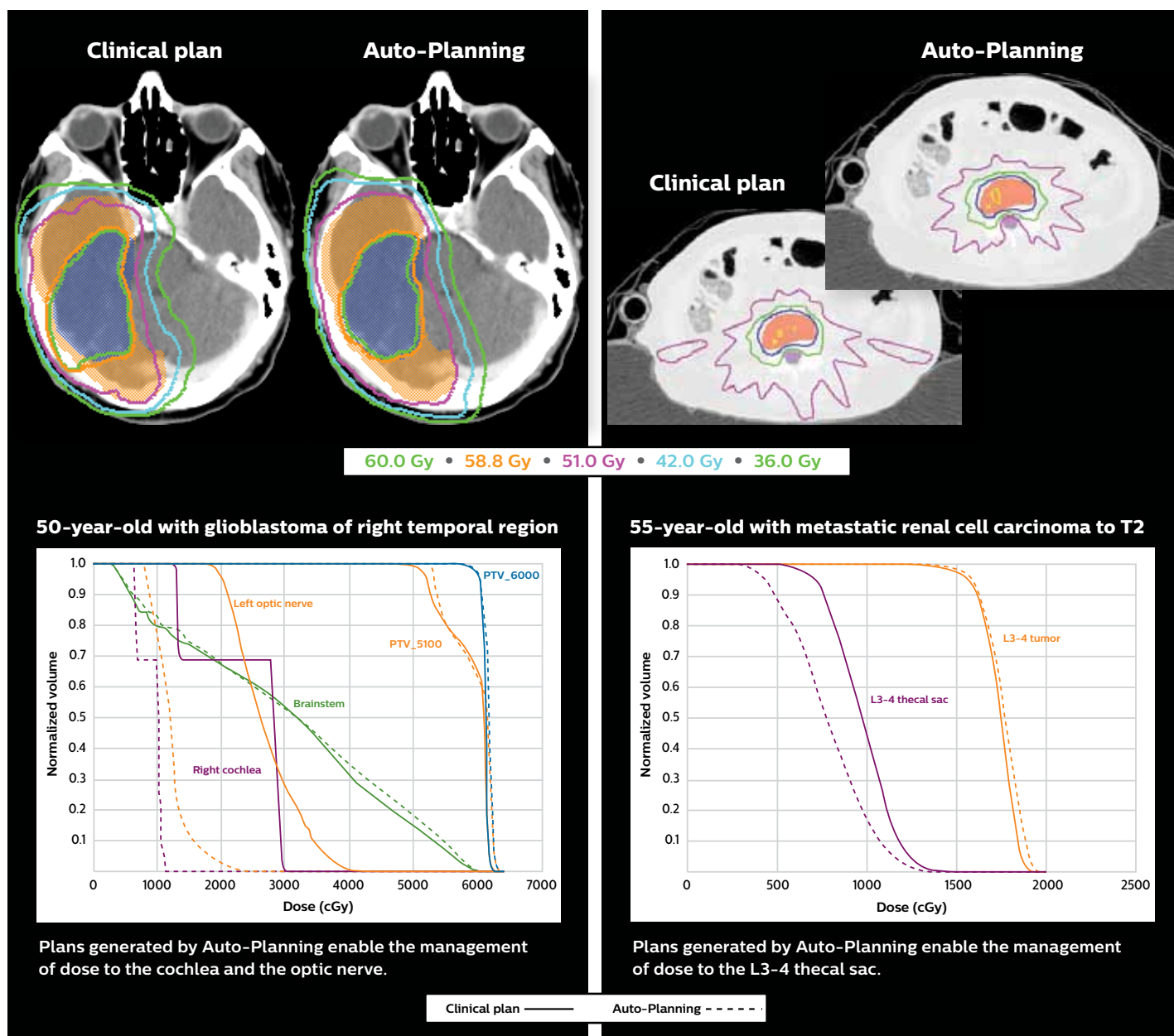
ROI	Type	Result
PTV_7000	Min DVH (%)	Not Met
PTV_7000	Min DVH (%)	Met
PTV_7000	Max DVH (cm ³)	OK
PTV_5600	Min DVH (%)	Met
PTV_5600	Min DVH (%)	Met
SPINAL_CORD	Max DVH (cm ³)	Met
BRAINSTEM	Max DVH (cm ³)	Met

Simplifies and standardizes the plan approval process.

Enhance plan **consistency** and **quality**

Reduce planning time by generating high quality plans the first time

The Auto-Planning engine optimizes target coverage and organs at risk sparing. It reduces the need for multiple plan reviews with the physician or physicist, and runs in the background, leaving the user free for other tasks.



Scorecards simplify and standardize the plan approval process

The user can evaluate the plan by comparing the results against clinical goals set in the Scorecards, and is able to adjust the plan for desired outcomes.

The intuitive traffic-light display provides at-a-glance information on plan quality.

Pinnacle									
Plan 2									
File									
Name: Sample				Description: Brain					
Primary Goal				Secondary Goal					
ROI	Type	Dose cGy	Volume	Dose cGy	Volume	Dose cGy	Volume at Primary Goal Dose	Result	
PTV_5100	Min DVH (%)	5100	95 %	0	0 %	4672.0	Min 100.000 %	Met	
PTV_6000	Min DVH (%)	6000	95 %	0	0 %	5275.7	Min 95.385 %	Met	
BRAINSTEM	Max DVH (cm³)	6000	0.03 cm³	0	0 cm³	6056.2	Max 0.026 cm³	Met	
OPTIC_NRV_L	Max DVH (cm³)	5500	0.03 cm³	0	0 cm³	2346.0	Max 0.000 cm³	Met	
OPTIC_NRV_R	Max DVH (cm³)	5500	0.03 cm³	0	0 cm³	5232.8	Max 0.000 cm³	Met	
GLOBE_L	Max DVH (cm³)	5000	0.03 cm³	0	0 cm³	1024.7	Max 0.000 cm³	Met	
GLOBE_R	Max DVH (cm³)	5000	0.03 cm³	0	0 cm³	1816.7	Max 0.000 cm³	Met	
LENS_L	Max DVH (cm³)	700	0.03 cm³	0	0 cm³	419.4	Max 0.000 cm³	Met	
LENS_R	Max DVH (cm³)	700	0.03 cm³	0	0 cm³	519.4	Max 0.000 cm³	Met	
CHIASM	Max DVH (cm³)	5600	0.03 cm³	0	0 cm³	5322.4	Max 0.000 cm³	Met	
COCHLEA_L	Mean Dose	4500		0		566.5	Mean	Met	
COCHLEA_R	Mean Dose	4500		0		909.1	Mean	Met	
SPINAL_CORD	Max DVH (cm³)	4500	0.03 cm³	0	0 cm³	304.4	Max 0.000 cm³	Met	
<div> <div>Compute</div> <div>Add Goal</div> <div>Delete Goal</div> <div>ROI Statistics...</div> </div>									

Scorecard showing Auto-Planning results of 50-year-old with glioblastoma of right temporal region.

Scorecard

File AP_AP_Trial ?

Name: Sample Description: spineSBRT

ROI	Type	Primary Goal		Secondary Goal		Dose cGy	Volume at Primary Goal Dose	Result
		Dose cGy	Volume	Dose cGy	Volume			
3-4 tumor	Min DVH (%)	1500	80 %	0	0 %	846.2	Min 82.086 %	Met
3-4 thecal sac	Max DVH (cm ³)	1400	0.03 cm ³	0	0 cm ³	1406.3	Max 0.002 cm ³	Met
3-4 thecal sac	Max DVH (%)	1500	10 %	1200	10 %	1406.3	Max 13.754 %	OK

Compute Add Goal Delete Goal ROI Statistics...

Scorecard showing Auto-Planning results of 55-year-old with metastatic renal cell carcinoma to T12.

Images courtesy of Cleveland Clinic.

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