

# Delta<sup>4</sup> Discover™

*MEASURE THE DOSE TO THE PATIENT AT TREATMENT*



*ENSURE PATIENT SAFETY AND TREATMENT QUALITY  
AT ALL FRACTIONS*

# Gain a new level of confidence

During the last decade, with the introduction of IMRT and VMAT, radiation therapy has taken major steps towards a higher level of individualization and precision. However, the control steps have been limited to verifying the dose prior to treatment.

## Peace of mind

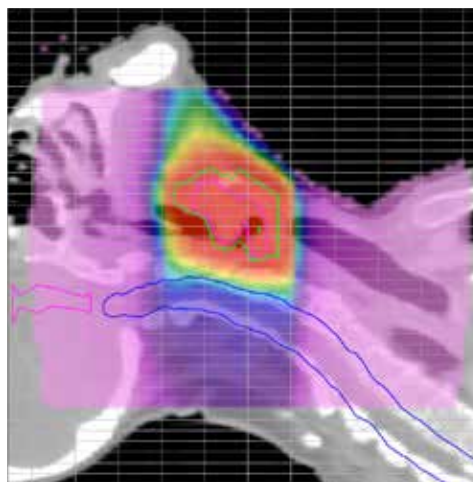
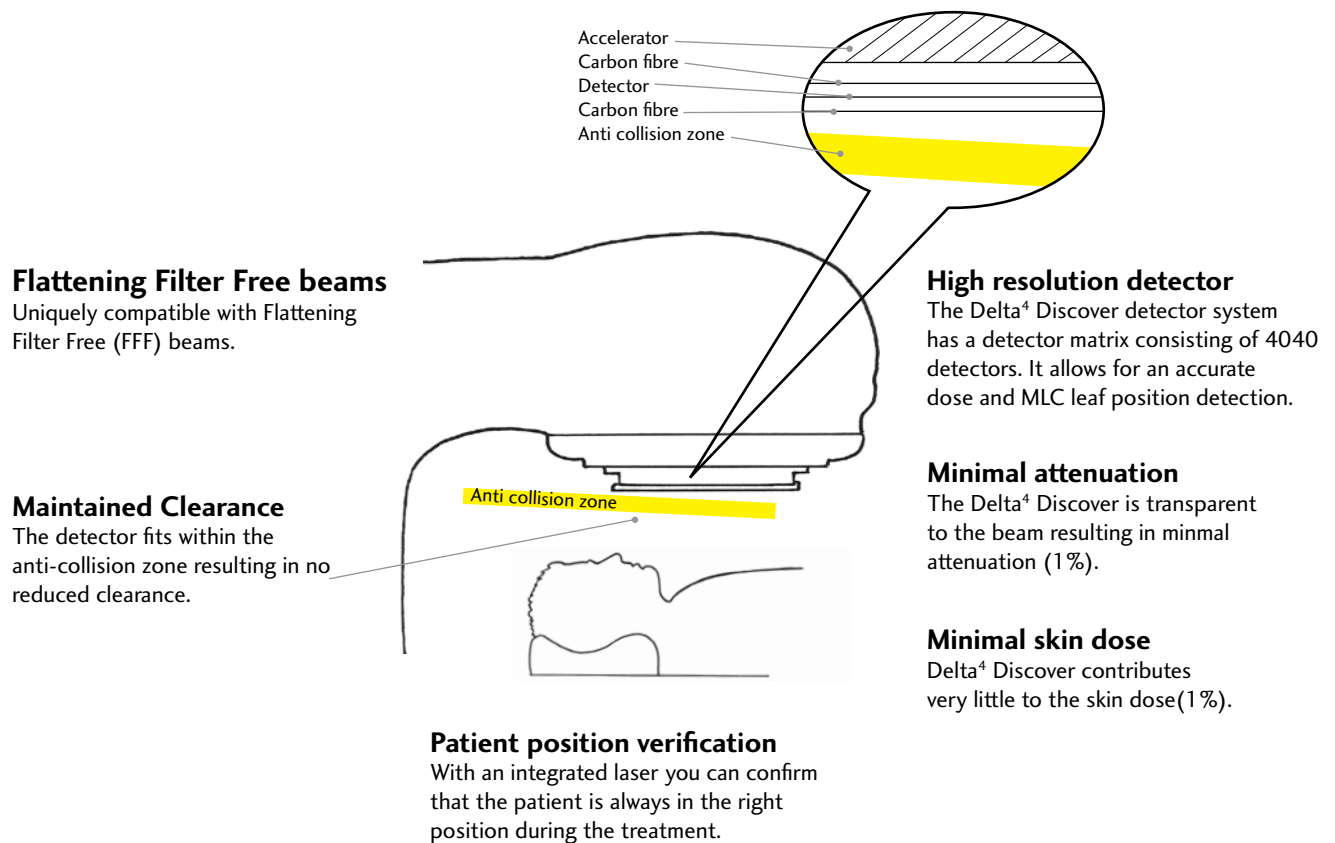
Now, the Delta<sup>4</sup> Discover technology allows accurate dose delivery verification at treatment, in the patient anatomy and for every treatment fraction. Thus, you can be ensured that your patients are treated according to the dose prescription and avoid errors in the dose in critical structures.

Both you and your patient can now be confident that the dose is delivered as it was planned.



# Ultra-thin transmission detector

The Delta<sup>4</sup> Discover system measures the dose that is delivered by the accelerator and automatically checks against pass-fail criteria that the treatment is done according to the plan. Together with the patient CT you can see the dose that has been delivered to the patient.



**Delivered dose in the patient anatomy**  
Combine delivered dose measurements with the patient CT image in the Delta<sup>4</sup> Anatomy module to verify the delivered dose in the patient anatomy.

# Enhanced confidence...

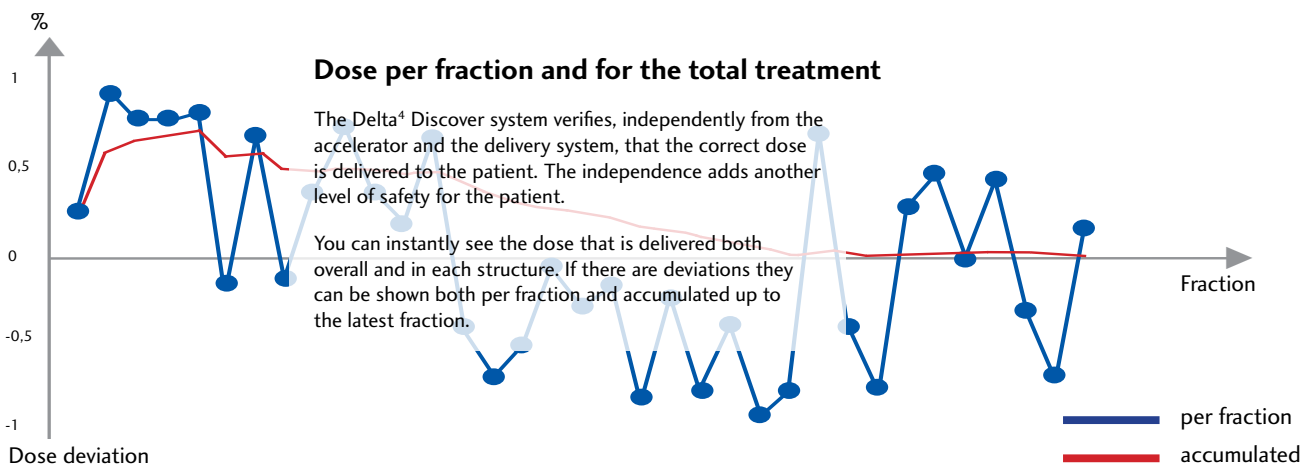
## For the physician:

- Confidence that the planned dose has been delivered to the patient
- Permanent control of the delivered dose for every fraction as well as the total dose

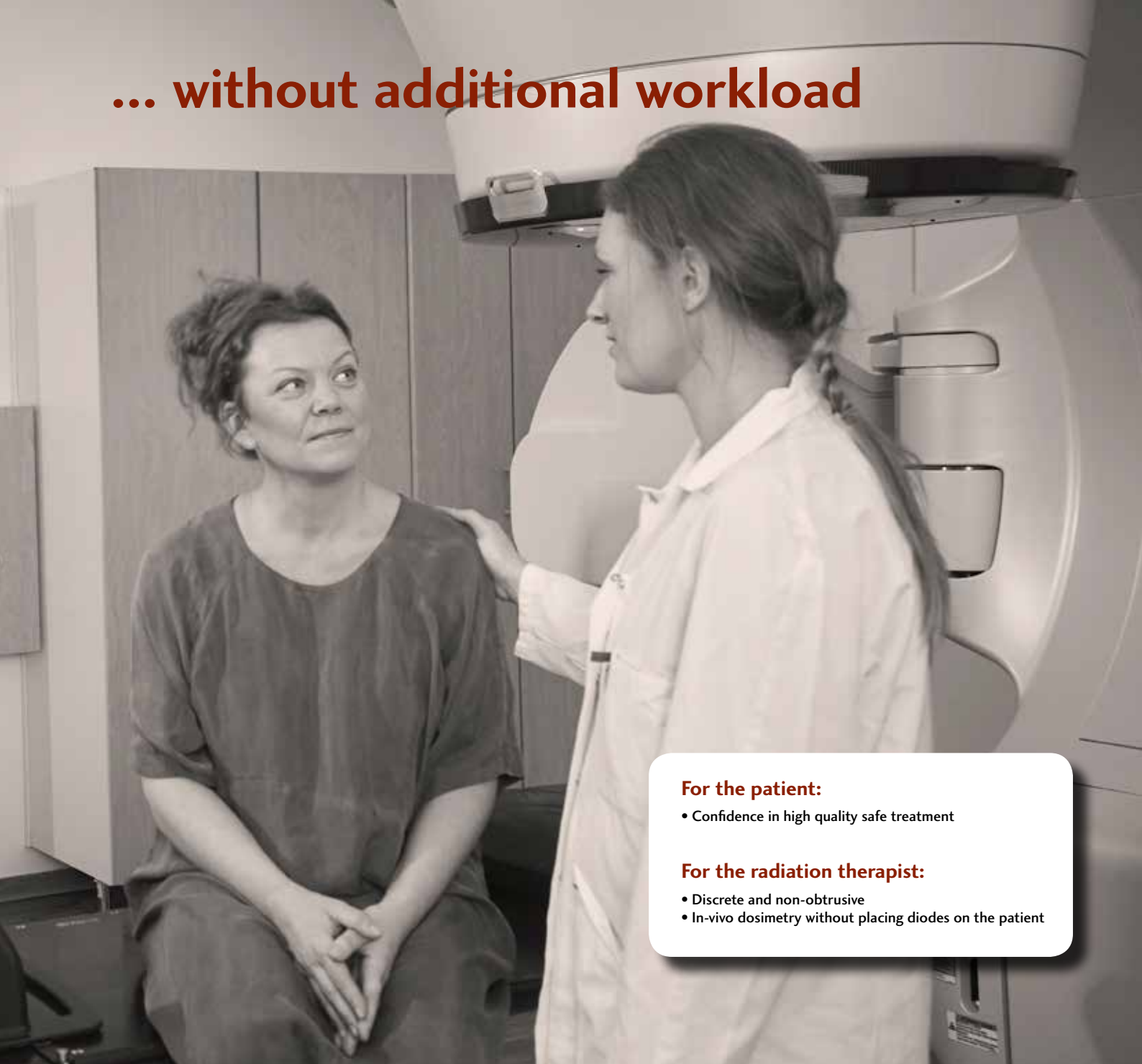
## For the physicist:

- Supports and facilitates patient and machine QA
- Increased safety for hypofractionated therapy
- Sets the stage for adaptive radiation therapy

# Safe and independent dose



# ... without additional workload



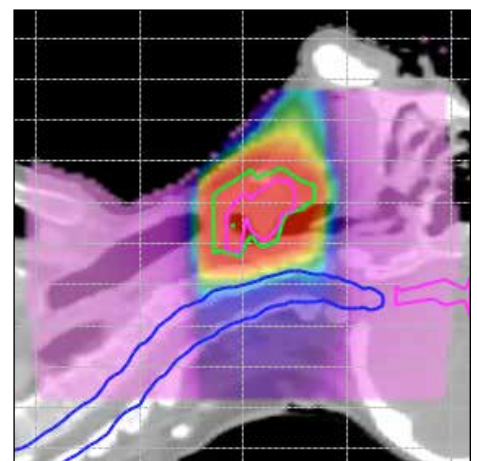
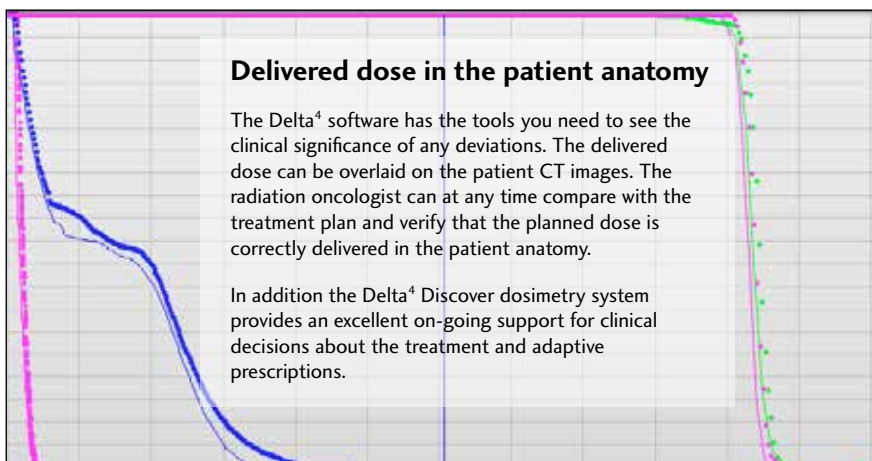
### For the patient:

- Confidence in high quality safe treatment

### For the radiation therapist:

- Discrete and non-obtrusive
- In-vivo dosimetry without placing diodes on the patient

## verification at treatment



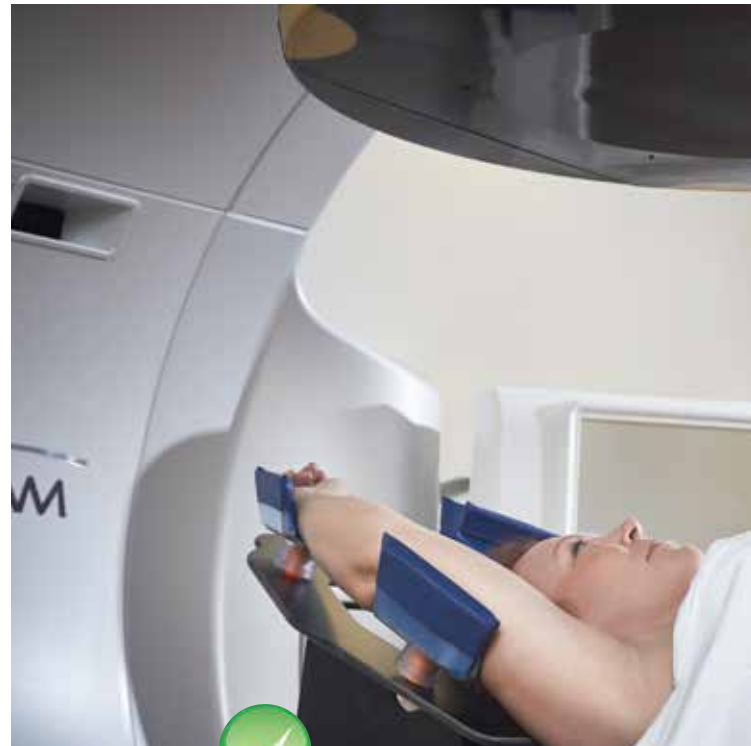
# Delta<sup>4</sup> has you



## Prior to Treatment



The physicist verifies that the plan fulfills the goals and that it can be delivered. Is the target dose correct and homogeneous? Are the dose constraints to the OAR:s correct? Can the plan be delivered on the machine?



## At Treatment



Delta<sup>4</sup> Discover automatically monitors the accelerator performance and measures the dose that is delivered to the patient allowing the therapist to focus entirely on patient care.

day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	
	3	4	5	6	7	8	9	10	11	12	13
	✓	✓	✓	✓	✓			✓	✓	✓	

## Technical specification

### Accuracy

Dose measurements in maintained field shape	Within 1.5%
MLC positioning determination	Within 1 mm

### Beam Attenuation

Beam attenuation	1% +
Increase of skin dose	1% +

### Detectors

Total number	4040
Diameter	1 mm (disc shaped)
Spacing	2.5 mm * (along MLC trajectories) 5 mm * (transverse to MLC trajectories)
Area covered	195 x 250 mm <sup>2</sup> *
Type	p-Si
Sensitivity decrease (6MV beam)	0.04% per kGy

### Weight, Dimensions - Varian Version

Dimension	Diameter: 790mm (disc shaped) Thickness: 55 mm (total)
Weight	10 kg with Li Ion battery 8 kg without Li Ion battery

\* 6MV, 10 x 10 cm field

\* when projected down to isocenter plane

# covered in QA



## Post Treatment



Instantly confirm if the treatment was correct. Delta<sup>4</sup> Discover analyzes the delivered dose vs. the planned dose, and a comprehensive report can be saved with the patient record for documentation and future follow up.

✓ 14	✓ 15	16	17	✓ 18	✓ 19	✓ 20	✓ 21	✓ 22	
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### Communication and compatibility

Compatible with

Reduced Linac Clearance when mounted

Linac's Light field

Optical range finder

Wireless data communication protocol

Battery operational capacity

Varian TrueBeam™ system

Varian linacs with Millenium™ MLC

It is within the zone of Varian's laser guard collision detection system which means that the clinical clearance is maintained

Varian TrueBeam: 6 mm from the top of accessory pins

Delta<sup>4</sup> Discover can be extracted so that the linac's light field is completely visible

The range finder is visible both when Delta<sup>4</sup> Discover is extracted and in normal position

Wi-Fi 802.11 n

> 6 hours

Rechargeable Li Ion battery – Charger is included

Technical specifications are subject to change without notice

ScandiDos is an innovative, cutting edge developer and manufacturer of quality assurance solutions and a world leader in dosimetry for radiation therapy. By developing tools for efficient QA, we help to make new and improved treatment techniques available. ScandiDos strives to be at the forefront of technology development to enable the rapid clinical adoption of the latest treatment modalities.

Contact us today, or visit [www.scandidos.com](http://www.scandidos.com) for more information.



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