PHILIPS

Radiation therapy planning

Customer story

Radiotherapy department at Catharina Hospital

Who?
Dr. Danny Schuring
- Medical Physicist
Dr. Katrien De Jaeger
- Radiation Oncologist

Where?
Eindhoven, the Netherlands
- Manages 3,500 patients a year
- Treats a wide variety of cancers with a particular focus on gastrointestinal, prostate, lung, and gynecological cancer

Challenge?
Practice adaptive therapy that is clinically feasible and clinically relevant

Solution?
Pinnacle³ radiation therapy planning system with Dynamic Planning

Planning for individual care

A wealth of information on your patient has suddenly come to light. How do you respond to changes, such as when the patient has lost weight? Re-plan, which might take several days? Or continue as before, knowing that the treatment plan's objectives may not be met?

Catharina Hospital's radiotherapy department has found another solution: re-planning with **Pinnacle³ Dynamic Planning.** The application's advanced automation, optimization and trending tools help Medical Physicists and Radiation Oncologists to easily assess patients and adapt plans, despite high throughput and complex techniques. Time and resources can then be concentrated on patients who will benefit the most from a re-plan.

The ability to **adapt**...

> *"Pinnacle³ Dynamic Planning has given us the tools to treat cases we wouldn't or couldn't have years ago."*
>
> **Dr. Danny Schuring**, Medical Physicist

Delivering patient care quickly

Today, the Radiotherapy Department at Catharina Hospital re-plans most cases within one day. *"In the Netherlands, we're known as a very efficiently organized department,"* begins Dr. De Jaeger. *"So Pinnacle³ Dynamic Planning fits excellently in the policy of our organization. But the big advantage here is what fast re-planning means for the patient. In lung cancer you start to see repopulation by the end of the fourth week of treatment. You just can't wait up to a week for the new plan."*

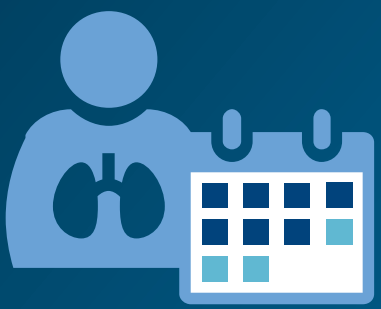
It's also transformed collaboration with referring physicians. Recreating the initial plan on the new image set often proved troublesome. *"We used to think, 'Well, it's just too much work to do that,'"* recalls Dr. Schuring. *"Now it's standard procedure."*

Changing routines with ease

Automation has made it easier for the department as a whole to embrace adaptive therapy. *"Our planners really enjoy working on IMRT and VMAT plans now,"* he reveals. *"It's easy to create a good plan fast."* Many repetitive activities are automatically copied to the new image set, saving time.

These days, he focuses on more challenging cases. *"Pinnacle³ Dynamic Planning allows the planners to handle the more routine work. I get involved earlier on in the planning process if questions come up. And I don't have to spend hours anymore fixing scripts."*

Making adaptive therapy clinically feasible



1
week

10 total lung cancer cases
2-3 lung cancer cases are actually re-planned[1]

Saving time when copying plans to new image sets[1]

1
hour

Performed manually
by a Medical Physicist

10
minutes

Performed automatically
by a planner using
Pinnacle³ Dynamic Planning

> ***Re-planning needs to be relevant for the treatment. In that sense, I think Pinnacle³ Dynamic Planning is very practical."***
>
> **Dr. Katrien De Jaeger,** Radiation Oncologist

...when it **matters**

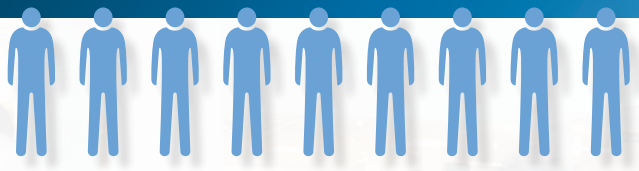
Knowing the plan is a good one
The Catharina team uses Pinnacle³ Dynamic Planning to increase clinical confidence. *"One of the surprising things we learned from dose reassessments was that many times, even though patients had lost weight, the dose distribution wasn't that much different,"* says Dr. Schuring. *"In the end, we don't need to take action as often as we expected, but now we're sure we don't need to adapt the plan."*

The radiotherapy team experiences similar peace of mind for repeat imaging cases. Here, accumulated dose is a concern. *"We use Pinnacle³ Dynamic Planning to make sure we're not re-irradiating a particular region,"* he adds.

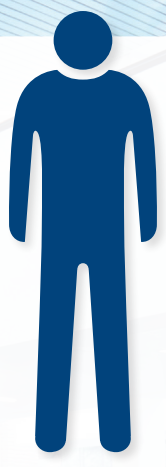
Supporting clinically relevant decisions
For Drs. Schuring and De Jaeger, the best plan is one that will have an impact on treatment outcome. The team found that Pinnacle³ Dynamic Planning quantified the effect of a dose re-calculation – instead of merely labeling it *"a minor change."* With this information, he continues, *"we select which patients will benefit the most from a re-plan and focus on those cases."* Dr. De Jaeger agrees. *"Does a plan with a 2% higher dose result in a better local tumor control? Of course you can try for perfection, but it won't be clinically relevant."*

Personalizing care

Dr. Schuring believes individualization is the key to unlocking better treatment plans. "Most approaches today treat patients as groups, not individuals," he explains. "But once you know what is happening inside of the patient actually in front of you, you can create a plan for him or her."



A patient as part of a statistical group
Clinical questions to answer:
- What is the dose needed to control these tumor characteristics?
- What does the dose tolerance of the OAR tend to be for this kind of tumor?
- Does this type of tumor respond well to radiotherapy?



A patient as an individual
Clinical questions to answer with the help of Pinnacle³ Dynamic Planning:
- How much dose is needed to control this tumor?
- What is the tolerance dose of the OAR for this patient?
- Is this tumor responding well to radiotherapy?

“Everyone’s talking about image-guided radiation therapy and adaptive treatments. I think Pinnacle³ Dynamic Planning is an essential tool in current radiotherapy practice.”

Dr. Katrien De Jaeger, Radiation Oncologist

Ready to make adaptive therapy part of your clinical routine?

Discover how **Philips Pinnacle³ radiation therapy planning** with **Dynamic Planning** can help you deliver exceptional care faster and at a lower cost. Contact your local representative or visit us at **philips.com/pinnacle-dynamicplanning**

[1] Results from case studies are not predictive of results in other cases. Results in other cases may vary.

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