

Case Study

Treatment targets

Localized digitally

Accurate radiotherapy case management
with high-quality patient care



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Oregon Healthcare and Science University

At a Glance

INDUSTRY

- Healthcare: Leading teaching, research and treatment hospital
- Home to numerous specialized research centers and institutes and provides a wide range of medical services, including advanced radiotherapy
- Multiple locations across South Portland, 16,000+ employees serving 300,000 patients

WORKFLOW

- Treatment target localization

CHALLENGES

- Slow workflow using traditional computer mouse
- Inefficient collaboration

SOLUTION

- 21.3" Wacom Interactive Pen Displays for image annotation and collaboration
- Varian Medical Systems' Eclipse application software, specifically designed for radiation therapy planning.

OUTCOME

- 60% less time required for radiation target volume definition
- Significant increase in case volume throughput while maintaining high level of patient care
- Comfortable working that helps accelerate the entire radiation therapy process
- New collaboration opportunities that are changing the communication landscape

"The pen response is smooth and accurate when highlighting targets of interest and the non-dominant hand features of the Wacom pen display allow one to pan, zoom, and scroll through data sets with hundreds of images easily and quickly."

Dr. Martin Fuss, MD, Oregon Health & Science University

More human *More digital*

Oregon Health & Science University (OHSU) in Portland, Oregon is one of the leading teaching, research and treatment hospitals in the nation. The Image-Guided Radiation Therapy (IGRT) program, led by Professor Martin Fuss, MD, is a shining example of how technology, when combined with sound leadership and vision, can alter the effectiveness and efficiency of radiation therapy health care.

Challenge

Dr. Fuss' active role in the adoption of new technology tools for radiation therapy led him to look for better ways to localize radiation treatment targets on medical images and monitor the success of patient therapy. Specifically, he was looking for an alternative to the use of a computer mouse to perform this task, which was slow, clumsy and prone to error. When he was introduced to Wacom pen displays, Dr. Fuss immediately recognized the potential of these devices for contouring

on medical images, in order to define target volumes for radiation therapy. It was clear that enabling the physician or dosimetrist to use the Wacom digital pen to draw directly on the screen where the image is shown would be inherently easier than the traditional computer and mouse-driven workflow.

Solution

With a generous 21.3" LCD monitor, the Wacom pen display selected by the hospital provides medical professionals with a large-screen experience that features superior resolution, display quality, and advanced functionality. In addition, the dynamically adjustable stand allows the display to be rotated and inclined for optimal viewing and ergonomic comfort. The ability to work directly on source material on screen, combined with the device's precise cursor control, and programmable ExpressKeys™ and Touch Strips, enables significant improvements in productivity and efficiency.

Implementation

The hospital's IGRT Group uses Wacom pen displays together with Varian Medical Systems' Eclipse application software, which is specifically designed for radiation therapy planning. "Eclipse lends itself very well to digital pen use," says Dr. Fuss. "The Wacom digital pen response is smooth and accurate when highlighting targets of interest, and the nondominant hand features of the Wacom pen display allow one to pan, zoom, and scroll through data sets with hundreds of images easily and quickly. Contouring around the affected area is critical to calculating the clinical target volume, and the Wacom digital pen is the perfect instrument for this type of work." Most importantly, the combination of the Wacom pen display with the Eclipse software delivers an accurate finished treatment target that helps accelerate the entire radiation therapy process.

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Outcome

Supported by the experiences of his staff and residents Dr Fuss explains that, "The pen-on-screen experience delivers a natural, accurate workflow with little or no learning curve, and the time-consuming process of radiation target volume definition has become much faster using the Wacom digital pen. Because it's so intuitive to use, it delivers much more control than a traditional computer mouse".

In fact, since deploying Wacom pen displays and tracking times to define radiation target volumes, Dr. Fuss estimates that the devices have cut the time required to finalize definitions by as much as 60%. As such, the IGRT Group has confidently been able to

handle a significant increase in case volumes and still maintain its dedication to quality patient care.

The Wacom pen displays have also been instrumental as an education tool, especially for residents at OHSU. "Not only are future radiation oncologists and radiation therapists trained at OHSU using the most advanced technology within our discipline, but they are taking and sharing this knowledge with others as they embark on their own medical careers," says Dr. Fuss. "The ability to draw, highlight and write on an image provides collaboration opportunities that are literally changing the communication landscape within the radiation therapy field."



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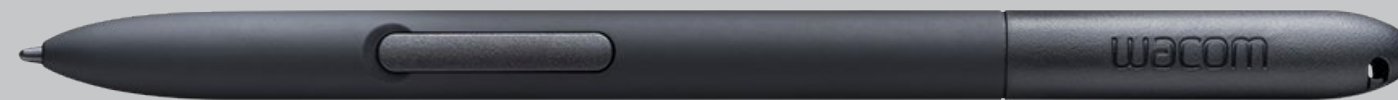


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