

3D virtual training facility

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The virtual training system consists of a 3D virtual model of a live size accelerator. An authentic hand pendant is used to control the motions of the machine, adding both sound and light and makes the experience very realistic.



Showing for up to 20 people at a time

The 3D virtual training facility also has an important role for dissemination to students and other professionals who want a general knowledge of radiotherapy. Often study visits can't be met due to time pressure in the clinic and we have therefore developed a virtual training program for visitors. Here the department is presented in a PowerPoint show and you experience a virtual radiotherapy treatment in 3D effect.

The show enables you to see how a treatment is given and better understand which side effects a patient can experience.

Training of RTT-students in the 3D training facility provides a calm and focused learning environment. It increases the students skills in handling the equipment, as it lets the student get acquainted through "hands on" exercises, in a stress free environment.



Open house arrangements where citizens are invited to get to know their hospital better. An immensely popular recurring event where they get a virtual tour and presentation.

Patient school where patients receive information about their disease and watch a virtual treatment in the 3D facility. Patients obtain a better understanding for their own anatomy and where their disease is located. The patient can also better understand the importance of their own set-up on the couch and the importance of lying still during treatment when they see how a treatment plan takes organs at risk into account.



THE CHALLENGE

The radiotherapy department at Herlev University Hospital faced some big challenges in 2007. The waiting lists had to be reduced and 8 new accelerators had to be taken into use. This created an exceptionally large demand for new RTT's. But the high workload on the accelerators made it difficult to contain the training of new students.

A more centralized training method, which ensured a both highly professional and technical level but, at the same time only required few human resources, had to be implemented. The solution proved to be a 3D virtual training facility, by Virtual Ltd.

RESULTS

Today we have gained an experience which confirms that training in a virtual learning environment provides a uniform, faster and more nuanced understanding for the clinical practice in radiotherapy. Through the 3D effect you get a better visual understanding of the dose distribution, consideration for organs at risk and therefore find yourself better equipped to understand the patients side effect profile.

The RTT-students experience their training as less pressured when they learn in a "patient free" environment.

Their understanding of the clinical techniques has improved now that they are able to view the inside of the patient and relate that to the isocentre, CTV and the 3D anatomy of the patient.

From other personnel groups who have visited the virtual training facility we have received only positive feedback. The benefit from the virtual training program is evaluated very positively and fully compensate for at shorter study visit in the department.

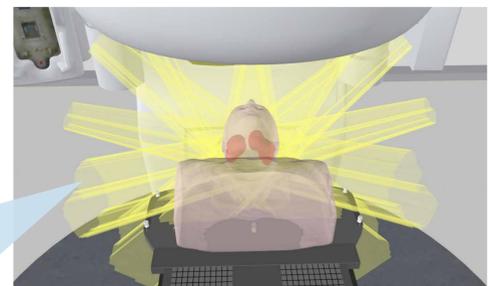
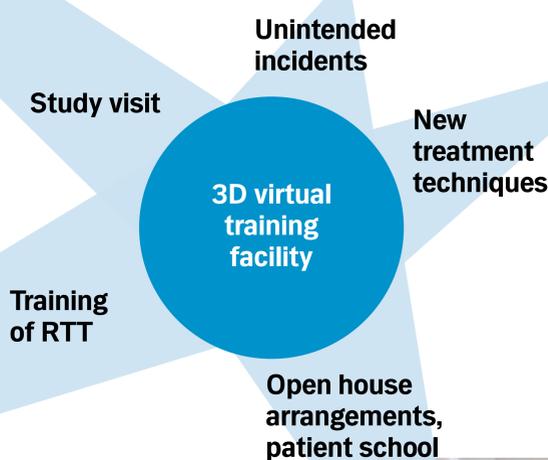
CONCLUSION

We believe that by using a virtual training facility you are able to reduce the time accelerators are used for training purposes and save valuable downtime.

The 3D effect provides a very unique experience for the RTT-students and they are often better able to understand complex techniques than they would in reality.

We believe that the virtual training facility is an excellent training tool which supplements the ordinary training of RTT-students in the radiotherapy.

We also see great advantages in using the 3D virtual facility as an informative tool whether used on visitors or patients.



Training of existing personnel in the virtual facility, when new treatment techniques are implemented, has proven effective. The 3D effect is a great pedagogical tool and makes it easier for the staff to visualize new things.

