



Latest developments in E-learning

Research and QA possibilities within the FALCON project

With its introduction of a web-based solution for e-learning, the FALCON (Fellowship in Anatomic delineation and CONtouring) project is an important and forward-looking part of the ESTRO education programme. The project supports training in radiotherapy contouring and with a web-based platform it has the potential to reach professionals all over Europe and beyond. It is already well integrated into both 'live' clinical teaching courses, the contouring workshops attached to the ESTRO conferences, as well as web-based teaching courses. Besides its immediate value as a pedagogical tool during these educational events, such a system also comes with a considerable potential for more long-term educational and scientific benefits. Provided this tool is used in a controlled and reproducible educational environment, data collected in connection with these events - ideally both before, during and after the course/workshop - can provide important data to address scientific, educational as well as pedagogical questions.

Research questions that can potentially be explored include:

- The effect of training (comparing contouring uncertainties before and after the educational event)
- Quantification of contouring uncertainties for several sites (also comparing the relevant imaging modalities)
- Feedback to teachers on the understanding of contouring concepts, and possibilities to direct the teaching towards the most relevant contouring variations
- 'QA' on new and upcoming RT approaches involving new imaging modalities, such as CBCT (examples and results could be made available on ESTRO/FALCON web site)

To increase the value of the analysis, background information about participants should also be collected, such as age, number of years in training, country of residence and the size of their RT clinic.

The recent editions of the ESTRO teaching course on "Image guided radiotherapy and chemotherapy in gynaecological cancer" have been used as a pilot study for the developments outlined above. This course, introduced for the first time in March 2011, (when it was held in Chandigarh, India) offered web-based contouring exercises as pre-course homework for participants to refine their contouring skills in addition to the contouring exercises which are integrated into the live teaching course. From the edition in September 2011 (in Izmir, Turkey) this was improved by the introduction of post-course contouring opportunities. The web-based FALCON platform is used for the homework in order to push the exercises directly to the users. The Figure shows an example of a high risk CTV at the time of brachytherapy for a patient with cervical cancer. The teachers have successfully taken advantage of the pre-course homework results in order to focus the teaching on the most pronounced contouring variations. It is planned to proceed with comparison of pre- and post-course contouring in order to evaluate the improvement of contouring abilities stimulated by the course.

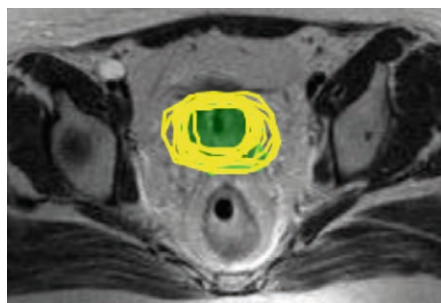
The potential for the further development of this system and its application in ESTRO's teaching activities are great. Future applications to be explored further include its use in continuous medical education as well as in accreditation before entering clinical trials. ■

**Ludvig Muren, Kari Tanderup
& Steffen Hokland**

*Dept of Medical Physics
Aarhus University Hospital, Aarhus, Denmark*

Primoz Petric

Institute of Oncology, Ljubljana, Slovenia



MRI at the time of brachytherapy in a cervical cancer patient. The high risk CTV was contoured by a number of course participants (yellow) and by an expert (green). The variation indicates a significant potential to improve the contouring by training

Find out more on FALCON
& the contouring workshops at ESTRO
31 next May in Barcelona on page 64.
Programme:

- Breast: Thursday, 10 May
- CNS: Friday, 11 May
- Prostate: Saturday, 13 May 2012
- Gynaecology: Sunday, 13 May 2012