Helax-IMCON

– a simulator workstation in clinical use at the Norwegian Radium Hospital

The Norwegian Radium Hospital has recently introduced into the clinic a system (Helax-IMCON) for acquiring digital simulator images at simulators from Siemens, Varian and Nucletron. This facilitates digital import and export of RT data, using DICOM-RT or proprietary protocols.

Treatment set-up can be created from scratch at the simulator or imported from either the treatment planning system or the verification system. Field set-up is performed either manually or by auto set-up using imported treatment plan data. A fluoroscopy image is taken, corrected geometrically by the Helax-IMCON software and displayed in an interface presenting several options for image manipulation and field shaping. Contours of target or critical organs may be drawn as overlays in the image. A margin to the target is chosen and collimators or MLC leaves will automatically adapt to the resulting outline. Predefined or freely drawn blocks may also be added to the field set-up. When simulating large fields, images acquired at different image intensifier positions are merged into one image containing the whole field. Having finished simulation, the patient's RT data are exported to a Kodak image archive from which the treatment planning system and the verification system can access it.

Helax-IMCON has simplified the simulator procedures by way of the automatic adaptation of MLC or blocks to an outlined target. Workload has also been reduced through the possibility of digital data exchange between all treatment modalities.