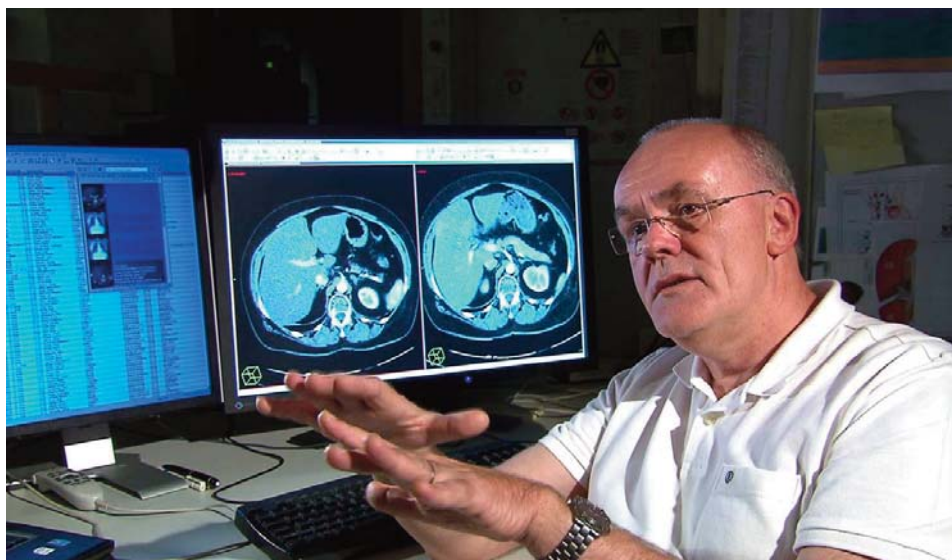


PowerViewer Feature Aids Comparison of Images at The Medical Centre Pruener Gang



"This system gives us the option of comparing images on a chronological axis. The images, which preserve anatomical structures, are synchronised in juxtaposition. This really supports our everyday work."

Dr. Johannes Hezel, Medical Director, The Medical Centre Pruener Gang.

Latest generation PACS with integrated PowerViewer speeds interpretation, allows multiplanar reconstruction, vascular representation and volume rendering with one click of the mouse.

Kiel is home to The Medical Centre Pruener Gang, a totally digital enterprise across four locations, specialising in radiology, neuroradiology, children's radiology, nuclear medicine and radiation therapy. Its development into a modern radiology service provider is thanks to an efficient RIS/PACS, permitting the team of radiologists led by the Medical Director Dr. Johannes Hezel, to liaise seamlessly between the different locations.

Each day more than 500 examinations are carried out across four separate locations, which are all fully digitised and networked, with external referrers given access to a teleradiology server. The vast data volume, approximately the same as that of a radiology department at a

university clinic, is accessed via the central server ensuring that all radiologists use the latest version of PACS from Carestream Health.

The PACS ensures that post-processing functionalities are fully integrated into the radiologist's working environment. Arduous and time-consuming interim steps such as changing workstations to specific computers and multiple uploading of extensive imaging data into various post-processing programmes are completely dispensed with. This user-friendliness, as Dr. Hezel's explains, means that the existing post-processing potential is also used to its full extent. "With one click on the mouse, we can juggle between very different functionalities such as multiplanar reconstruction or vascular representation or volume rendering, so that it becomes completely routine to actively use these different post-processing options. Virtually no post-processing takes place in the image-producing modalities, these are available purely for the patient examination and data acquisition and the entire image data set is then sent unfiltered to the PACS.

"The advantages gained in examination capacity and quality far outweigh the necessary storage costs. I feel this is a very intelligent and hands-on solution for our work processes, one that simultaneously permits a high degree of standardisation but also individuality when it comes to examinations."



"I feel this is a very intelligent and hands-on solution for our work processes"

Dr. Johannes Hezel,
Medical Director,
The Medical Centre
Pruener Gang.

Integrated PowerViewer

The new CARESTREAM PACS with its integrated PowerViewer takes the traditional development of PACS another definite step towards the future. In addition to the traditional and already extensive post-processing tools, the new system facilitates a more reliable and user-friendly comparability between current cross-sectional examinations (CT, MRI, PET/CT) and relevant previous digital examinations for both internal and external DICOM data. By comparing anatomical landmarks, the system is able to co-register volumes, allowing an interactive comparison of volumes from different examinations. The system provides image sequences, as long as comparable volumes, allowing available, without any impairment to quality, which means that it can work with data produced by multiple imaging procedures. The radiologist at his workstation has easy access to all the images in the archive and is able to produce an accurate historical patient analysis whilst gaining a greater diagnostic and prognostic outcome through the processing of his immediate findings. Dr Hezel explains further: "This system gives us the option of comparing images on a chronological axis. The images, which preserve anatomical structures, are synchronised in juxtaposition. This really supports our everyday work.

"It's particularly applicable for evaluating cancerous diseases and treatment progression such as the progression of lymphomas, melanomas or bone metastases, i.e. whenever quantitative statements are needed. By adjusting imaging planes in neuroradiology, extra

precision can be achieved when assessing the progression of tumours or the progression of multiple sclerosis. The computer does a considerable amount of the arduous comparison work for us."

One-to-One Comparison

This precision comparison of examinations that have been prepared at different points in time and possibly on different modalities is only possible if the imaging data yields a sectional plane, which is exactly the same. Previously attempts were made to achieve this through standardised tilting of measuring equipment and positioning the patient accordingly during the imaging procedure. Today electronic post-processing of imaging data means that the level of perspective is always correct while the system automatically co-registers the examinations. Dr Hezel concurs; "If such a process has to be set up manually it can easily take an hour if there are thousands of slices to make an exact comparison between the images in any one process. Using anatomical co-registration, made possible by the PACS, the computer takes on a whole range of these comparisons that at one time were carried out manually. The images you want can be retrieved in fractions of a second by one click on the mouse. So I have a virtual one-to-one comparison, an identical image presentation and an identical layer for both the earlier and latest examinations. This represents huge progress when it comes to quality and the quantitative evaluation of sequences."