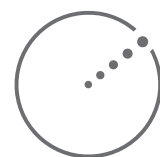


iViewGT™

Electronic Portal Imaging



Confidence at the point of treatment



ELEKTA

Low dose imaging, high performance Quality Assurance

iViewGT™ provides 2D MV planar images within a fraction of a second, making on-line patient position correction possible. When combined with Elekta AutoCAL software and OmniPro™-I'mRT software from Scanditronix-Wellhöffer, it is also a powerful tool for IMRT quality assurance.

With the increasing demands on departments for improved clinical outcomes and faster workflows, iViewGT helps achieve this with:

- excellent clearance and superior field-of-view
- low patient dose, as small as 1MU
- on- and off-line enhancement and registration of the images
- on-line images for patient positioning verification
- off-line review and approval of images
- network-ready including DICOM RT and AutoDICOM, with easy connectivity to the IMPAC MOSAIQ™ network
- IMRT quality assurance including MLC verification.

Not just a portal imaging device, the iViewGT fits in seamlessly with the other products from Elekta including MOSAIQ data management system and Precise Treatment System™. As a standard product on Elekta Synergy® Platform, iViewGT helps provide the upgrade path to XVI and full IGRT. In addition, Elekta offers comprehensive service support as well as a range of training courses.

For a powerful yet simple to use electronic portal imaging device iViewGT from Elekta provides the solution.



Simple system set-up and acquisition

Simple patient selection

Patients selected using IMPAC MOSAIQ™ or Desktop Pro™ are automatically selected on the iViewGT™ acquisition screen.

Large field-of-view

iViewGT provides a superior active imaging area (40 x 40cm). The large square detector and wide lateral and longitudinal offset of ± 11.5 cm in each quadrant, provides flexibility in orientation and patient positioning to accommodate all patient anatomies. These combine to enable imaging of almost all clinical set-ups.

Control at your fingertips

- Simple-to-use controls are available patient-side to facilitate automated movements of the imaging panel
- A manual retraction feature enables quick and easy access to the patient and for use of the laser lights.
- Fully interlocked safety features ensure operator confidence and patient comfort.

Low patient dose

- iViewGT can create a high quality image with as little as 1MU and is available on screen within a fraction of a second.

Excellent workspace

- During patient positioning iViewGT folds back neatly against the gantry face ensuring clinical set-up is unrestricted.
- The design of iViewGT also preserves the industry-best gantry-to-isocenter clearance providing the best possible patient access and flexibility for the operator for non-coplanar techniques or additional patient fixation devices.



The image quality for informed decisions

Superb image quality

The high sensitivity solid state detector used by iViewGT™ provides greatly improved image quality over traditional camera or film-based portal imaging:

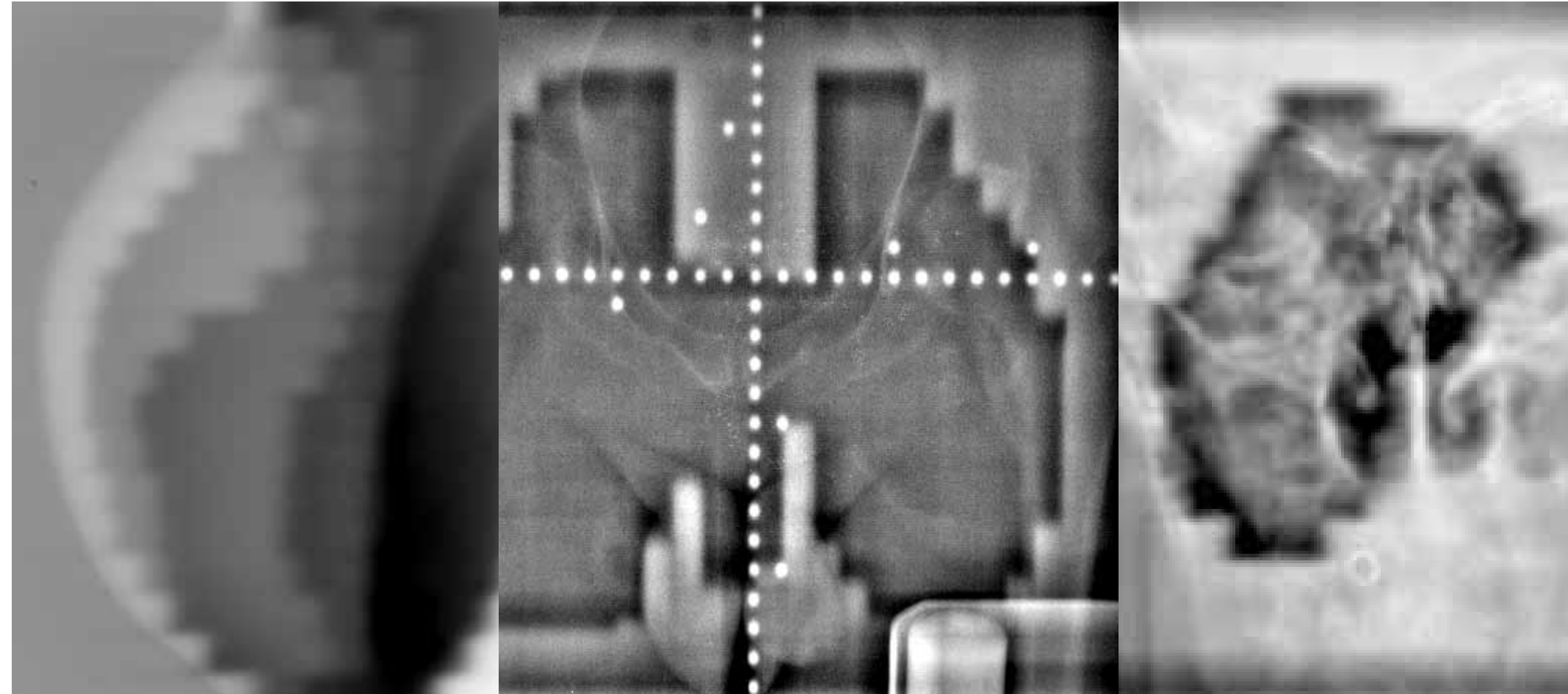
- images can be displayed in a variety of ways for optimum review such as lung and bone inversion
- images can be enlarged, scaled, measured, flipped and rotated for ease of comparison with the reference image
- images can be further enhanced using the CLAHE* feature for superior image optimization in difficult anatomical sites.

* Contrast limited adaptive histogram equalization.

Simple image review

Side-by-side comparison of reference with the acquired image can be done on- or off-line:

- after image registration, the patient displacement is automatically displayed and recorded for analysis
- annotation notes may be added to an image and stored with it for future reference, just as one would write or draw on a film
- images can be further analyzed in other software packages such as IMPAC MOSAIQ™ Setup Intelligence™ package for trending
- patient position results can be sent for approval and annotations can be added to approve the registration.



Step-and-shoot IMRT delivery to the breast

Double exposure of a large pelvis field, a graticule has been placed in the treatment beam

Enhanced CLAHE display

Elimination of systematic errors and artefacts

Using the movie loop features in real-time allows the monitoring of systematic errors due to patient movement.

Workflow/connectivity – putting you in control

iViewGT™ in combination with remote review, helps minimize the number of steps an operator requires to handle patient data. With a choice of networking methods including DICOM RT, DICOM SC, DICOM AUTOPUSH and iCom-Vx, the network can be set up to compliment the working practices of the clinic.

IMRT image verification of the treatment plan

Real-time imaging of IMRT segments is made possible with iViewGT™ using continuous imaging in single, multiple or movie-loop mode. This provides high contrast images enabling fast verification of dose conformance for assurance of treatment quality, useful for IMRT fluence verification.

Tools for Quality Assurance

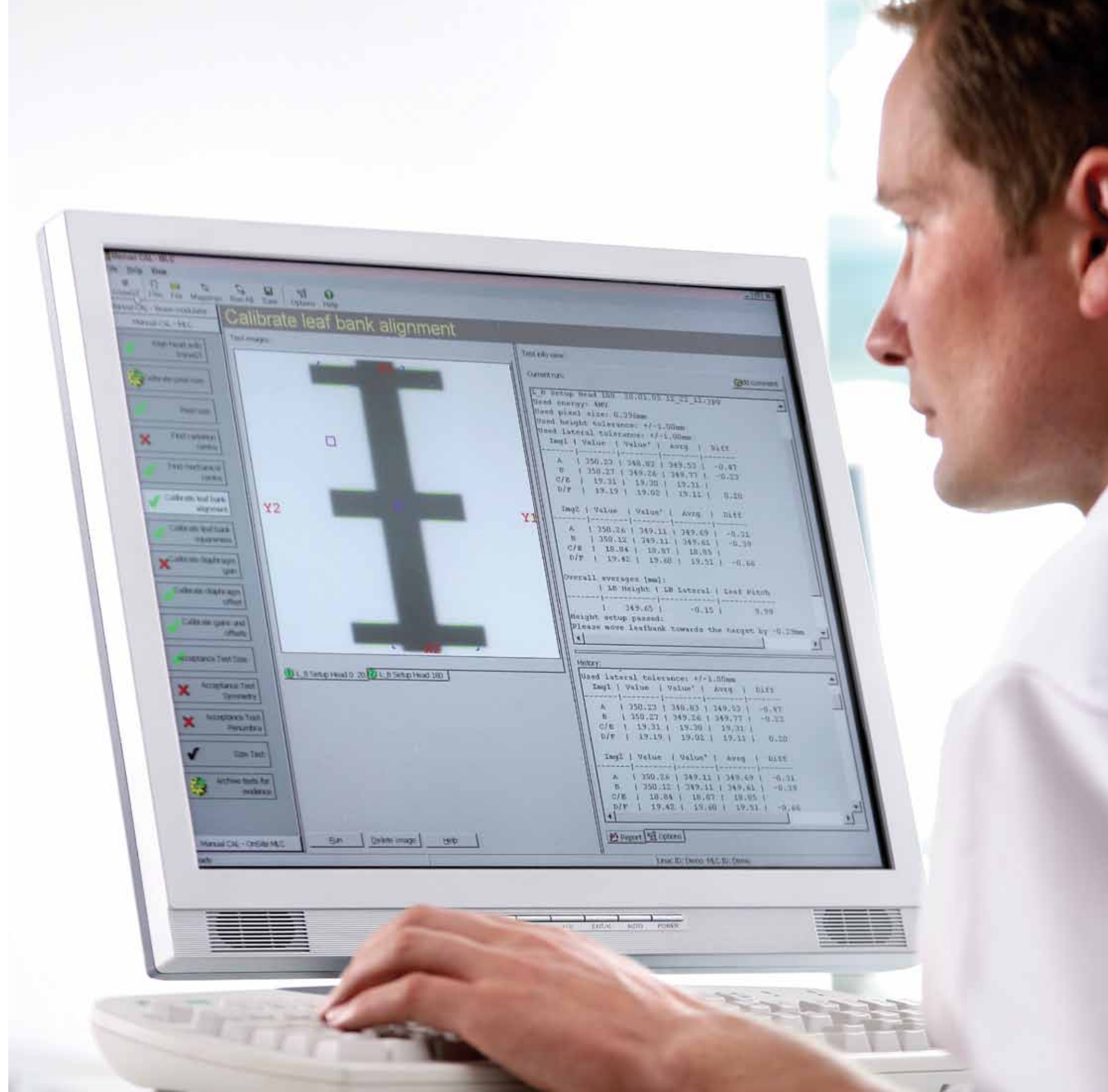
For an automated MLC calibration process, AutoCAL software provides the solution using iViewGT™ images. AutoCAL analyzes a set of digital images to confirm MLC leaves are within tolerance, and adjustments are transferred to Desktop Pro™ control system at the touch of a button. AutoCAL can also be used to periodically check MLC calibration is maintained.

In combination with Scanditronix-Wellhöfer OmniPro™-IMRT software, Elekta offers the complete IMRT quality assurance solution, including hybrid and relative plan/dosimetric comparison of calculated with measured dose. The software also offers film-in-phantom comparison of 2D dose, simultaneous in-plane and cross-plane profile analysis, with distance to agreement, dose difference and gamma evaluation.

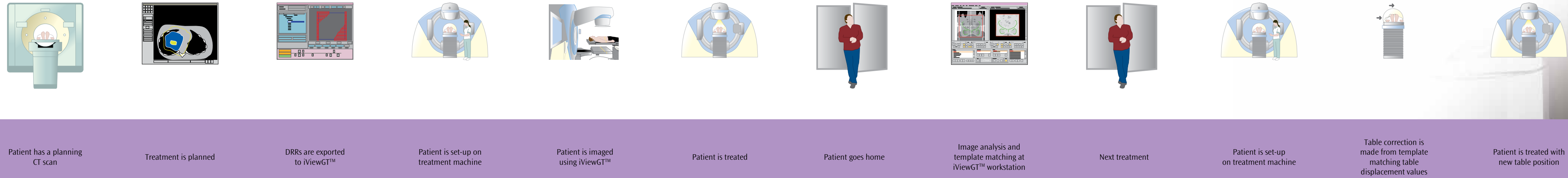
With iViewGT release 3.4 IMRT portal dosimetry research is simplified with the options to disable the segment weighting factor and reintroduce the field flatness profile.

Investment security

iViewGT is easy to install on all Precise Treatment System™ and SL Series linear accelerators back to the first in 1986. This imaging solution is integrated as standard on the Elekta Synergy® Platform, future proofing the system for upgrade to XVI for a combined IGRT solution.



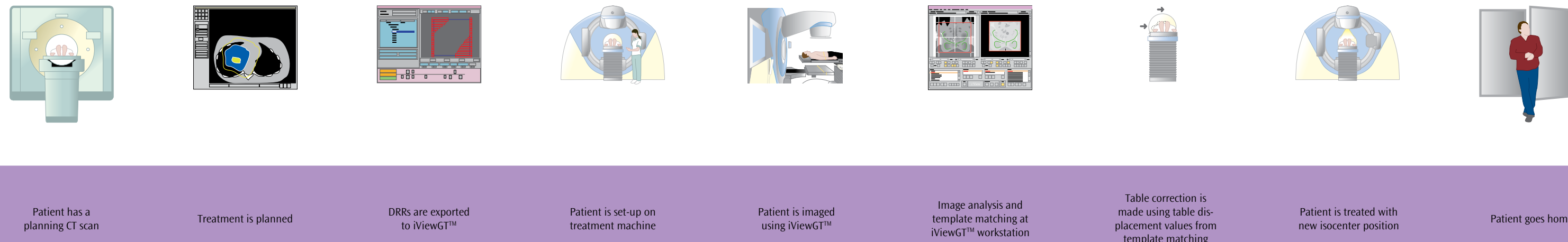
Off-line image review workflow



Routine imaging during the course of a patient's treatment has become common place in many radiation therapy departments. This diagram illustrates an example of a routine off-line image review workflow using iViewGT™.

In this example the images are reviewed following the patient's treatment and an analysis made of the accuracy of delivery, using the iViewGT™ image registration tools. This image registration will generate a table displacement value which can be implemented at the following and subsequent treatments. Icon-driven menus ensure that the software is easy-to-use and navigate, thus optimizing workflow.

On-line image review workflow



This diagram illustrates how easy it is to perform on-line image review using iViewGT. The workflow orientated template matching tools can be used to quickly and simply generate table displacement values. These can then be translated into a table movement or isocenter shift, thus improving accuracy of treatment delivery.

Image review

Additional image annotations can optionally be approved or disapproved on-line or off-line. Actions required will automatically be presented to the operator at the iViewGT workstation at the treatment system, on selection of the patient.



Supporting you now and in the future



Lifecycle support

With decades of experience in supporting clinicians in their battle against serious disease, Elekta has an in-depth understanding of the needs and requirements of medical treatment centers. Elekta's customer support philosophy is driven by a commitment to building and maintaining long-term customer relationships, driven by the following objectives:

- design and develop products with a long-term upgrade path
- increase uptime and improve patient flow
- facilitate customer networking with societies and research groups
- pro-actively prevent unplanned downtime and rapidly resolve problems if they occur
- support smoother patient flow

Education and training

Elekta provides a range of education and training courses at specified training centers or at the customer's own site. The Elekta Radiotherapy Applications Group provides clinical applications training tailored to meet the specific needs of each customer. The modular approach to training introduces the customer to elements of the equipment step-by-step and at the customer's own pace. To enable the customer to become familiar with the set-up and configuration of their own machine, specialists in the UK, USA, Germany and Hong Kong deliver training on the customer's own equipment. Technical training is provided to ensure service engineers and physicists have the knowledge and confidence to provide local support.

Technical service

Elekta has been able to incorporate valuable years of service experience into the manufacture and support of the product. Experienced help-desk engineers work closely with the research and development department and manufacturing teams to provide a dynamic and timely response to high-level queries as they occur. Because Elekta is unique in having a fully digitally controlled linear accelerator, Elekta engineers can remotely diagnose problems as well as provide remote predictive and preventive support options. For customers wishing to perform their own maintenance routines, Elekta offers comprehensive training courses for engineers as well as a rapid turnaround spare parts service.

www.elekta.com

Human Care Makes the Future Possible

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