A TrueBeam™ system for high-precision image-guided radiotherapy and radiosurgery has been installed in the Radiation Oncology Department at Hôtel Dieu de France hospital in Beirut Lebanon.

The TrueBeam™ system is designed by Varian Medical Systems, the world leading manufacturer of radiation oncology equipment. TrueBeam™ is by far the most advanced and versatile radiotherapy platform integrating several state-of-the-art radiotherapy innovations. This includes:

- Image-Guided Radiotherapy (IGRT)
- Intensity-Modulated Radiotherapy (IMRT)
- Volumetric Intensity Modulated Arc Therapy (RapidArc®)
- Stereotactic Ablative Radiotherapy (SABR)
- Intracranial Stereotactic Radiosurgery (SRS)
- Intensity-Modulated Radiosurgery (IMRS)
- Image Guided Radiosurgery (IGRS)
- Respiratory gating for motion management
- Conventional 3D conformal radiotherapy

The newly designed Aria® V-11 information system and Eclipse™ V-11 treatment planning system from Varian will be installed with the TrueBeam™.

Eclipse™’s photon dose calculation algorithms are the well published AAA and ACUROS. ACUROS is the newest photon dose calculation algorithm in the industry to date that best approaches the precision of Monte Carlo dose transport.

Accurate IMRT and RapidArc® dose distribution simulation results are expected from Eclipse™ particularly in heterogeneous regions (such as bones, lungs, and sinuses).
All types of cancers will benefit from the technology offered by TrueBeam™:

- The radiosurgery capability is integrated within the system and is mounted with very precise sub-millimetric mechanical tolerance. The radiosurgery planning component is implemented on BRAINLAB iPlan®, the leader in its field. With the unique TrueBeam™ high dose rate capability, a complex radiosurgery procedure normally requiring 30 to 60 minutes can be completed in 5-20 minutes.

- TrueBeam™ treatments are delivered faster by using integrated "intelligent" automated imaging, patient repositioning, and high dose rate beam delivery systems. This leads to enhanced treatment precision and a five-fold decrease in the treatment delivery time; hence improving patient comfort.

- Real-time position management (RPM) capability is integrated with the overall TrueBeam™ system. An infra-red camera, monitoring the breathing cycles, synchronizes motion feedback with beam delivery parameters and image guidance at 10 milliseconds intervals. This capability provides accurate targeting of tumors and improved sparing of normal organs.