CANCER CENTER

Radiation Oncology
To complete its offer of a super multispecialty hospital, CIMS is proud to offer a new service, by introducing Radiation Oncology Center. This upcoming setup is all geared up to be open to service by end of March 2014.

We are very excited to become the first hospital in India to commission the latest model of Linear Accelerator, Versa HD, from Elekta, which is also the first of its kind in Asia. Versa HD gives clinicians the flexibility to deliver conventional therapies to treat a wide range of tumors throughout the body, while also enabling treatment of highly complex cancers that require extreme targeting precision.

Integrated with Elekta’s recently-launched Agility 160-leaf multileaf collimator (MLC), Versa HD provides highly conformal beam shaping – a critical requirement for maximizing the dose to the target while also preserving surrounding healthy tissues. Importantly, this high targeting accuracy is available over a large field-of-view, permitting delivery of high-definition (HD) beams to a wide spectrum of complex targets.

Capable of delivering radiation doses three times faster than previous generation Elekta linear accelerators, Versa HD harnesses the ultra-fast leaf speeds of Agility MLC. With this groundbreaking combination, clinicians can now, for the first time, take full advantage of higher dose rate delivery, potentially enabling even greater capabilities for sophisticated therapies, including stereotactic radiosurgery (SRS), stereotactic body radiotherapy (SBRT) and volumetric modulated arc therapy (VMAT).
Uniqueness of CIMS Radiation Centre

- First Versa HD Linear Accelerator by Elekta in Asia
- Agility-highly focus 160 leaf MLC newly launch by Elekta
- APEX DMLC-High definition 2.5mm leaf width for brain tumor
- First FFF mode treatment in Asia by Elekta
- 3 times higher dose rate than any other normal Linac dose rate
- Hexapod-6 dimensional motion correction by robotic couch
- Minimize the treatment setup error by correcting 3 rotational & 3 transverse motions during the treatment
- **Active Breathing Coordinator™ System**
  - Exactly track the position of moving target like lung tumor because of breathing motion & reduce the dose of normal tissue
- **4D SYMMETRY**
  - SymmetryTM provides acquisition and in line reconstruction of 4D volumetric data, utilizing unique patented technology for sorting each projection image into a phase based bin. This sorting occurs by reviewing the moving anatomy within the projection images and calculating a respiratory trace directly from the internal anatomy.

Services Available

**External radiotherapy**

- **3D-CRT** - Delivers 3 dimensional conformal radiotherapy
- **IMRT** - Intensity modulated radiotherapy: Creates intensity modulated treatment plan by using variable dose rate, MLC speed & fixed gantry angle during treatment
- **IGRT** - Image guided Radiotherapy: It takes use of X-ray volume Imaging (XVI) of patient before treatment execution for verification of treatment position.
- **VMAT** - Volumetric Arc Therapy: Delivers Treatment plan by using variable dose rate, MLC speed with continuous motion of Gantry with variable speed
- **SBRT** - Stereotactic body radiotherapy: Helps to deliver treatment with high dose rate for small size tumor in body to give very high dose with high precision in few fractions
- **SRT** - Stereotactic Radiotherapy: Helps to deliver treatment with high dose rate for small size tumor in brain to give very high dose with high precision in few fractions
- **SRS** - Stereotactic Radio surgery: Helps to deliver bloodless treatment with high dose rate for small size tumor in brain to give very high dose with high precision in single fraction

Treatment planning systems

- **Monte Carlo Biological algorithm**: Treatment plan generation by MONACO TPS works on Monte Carlo biological based algorithm.
- **Octavius 4D**: Treatment plan verification by 4 dimensional patient phantom before executing the plan on patient
- **Oncentra Master Plan**: Generates Brachytherapy plan to deliver internal radiation by using radioactive source

Equipped with the latest state-of-the-art equipment and supported by highly qualified and dedicated oncologists, Care Institute of Medical Sciences is all set to become one of the desired destinations of cancer patients from across the country.
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