Apollo Cancer Hospital, Hyderabad

- Apollo Cancer Hospitals, Hyderabad is a centre of excellence in cancer care. The hospital provides comprehensive cancer care including prevention, treatment and rehabilitation.

- Apollo Cancer Hospitals offers services including Radiation Oncology, Medical Oncology, Surgical Oncology, and Head & Neck Oncology along with Specialty Clinics for Breast Cancer, Musculoskeletal Cancers, Oral and Throat Cancers.

- The Hospital is equipped with state-of-the-art technology and was the first hospital to have a PET CT Scanner in India and now the latest addition being Novalis Tx which is a new standard in radiation therapy and radio surgery.

- The tumor board, which is a unique feature of the Apollo Cancer Hospital, facilitates interaction of oncologists and all the support functions involved in the patient Care on a platform to discuss the best approach for treatment.

- Cancer Check: As early detection is the key to successful treatment, the hospital offers the Apollo Cancer Check, which includes gender-specific investigations covering all common cancers.

- Apollo Hospitals was the first Indian hospital group to introduce Stereotactic Radiotherapy and Radiosurgery for cancer treatment.

- Was the first hospital group in South-East Asia to introduce the 16 Slice PET-CT Scan.

- Introduced the most advanced CyberKnife® Robotic Radio Surgery System in the Asia Pacific, region, the world’s first and only robotic radiosurgery system designed to treat tumors anywhere in the body with sub-millimeter accuracy.

- Novalis Tx™ Radiotherapy & Radiosurgery, one of the most precise, non-invasive and fastest treatments available for cancerous and non-cancerous conditions of the entire body was launched at Apollo Cancer Institute Hyderabad. Treatments are delivered from outside the body to destroy tumors without an incision. This protects the patient’s healthy tissue, so patients can avoid hospitalization, lengthy recovery periods and many of the complications often associated with conventional surgery.
The Medical Leadership Team

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MBBS; M.D.(RT), D.N.B.,
Medical Onc, (ESMO), FUICC
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Dr. Kausik Bhattacharya
MBBS ;
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RADIATION ONCOLOGY

Dr. Vinitha Reddy
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Dr. Chandrasekhar Rao
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Dr. Trilok Pratap Singh Bhandari
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Dr. Srinivas Chakravarthy
MBBS; MD (Internal
Medicine); Fellowship
(Medical Oncology);
Fellowship (Hematology)

Dr. Umanath Nayak,
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Dr. Sankar Reddy
MBBS, DNB (General Surgery)
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Dr. S.V.S.S. Prasad
MBBS ; MD (Pediatrics), DM
(Medical Oncology)

Dr. Y. Nalini
MBBS; MD (Radiotherapy);
DNB (Radiation Oncology)

Dr. Prashant Upadhyay
MBBS, DMRT, DNB, FUICC (USA)
Tumor Board

- Apollo Tumor Board is a group of eminent Radiation, Medical and Surgical Oncologists, diagnosticians and other specialists.
- Together they concur on an accurate diagnosis and evolve the best unbiased scientific option for every patient even for the most baffling cases.
- Every patient gets only the very best and personal treatment plan from Tumor Board. Individual bias is ruled out by this team effort.
Radio surgery and Radiation therapy

Novalis TX - No Knife. No Pain. No Compromises

- Choosing Novalis TX Radiosurgery means making no compromises on your treatment - a painless, non-invasive outpatient procedure for cancerous and non-cancerous conditions of the entire body. Novalis TX

- Radiosurgery uses a treatment beam contoured to the exact shape of your tumor, precisely delivering treatment while protecting surrounding healthy tissue. And a treatment session lasts just minutes, not hours. Novalis TX Radiosurgery giving new hope to patients with tumors once considered untreatable.
3DCRT & IMRT (Intensity Modulated Radiotherapy)

3DCRT Three Dimensional conformal Radiotherapy with multiple beams configurations helps in increasing therapeutic ratio by helping us preferentially treat tumor and protect normal tissues.

IMRT (Intensity Modulated Radiotherapy) is an advanced form of 3D CRT in which conformal radiation is delivered using multiple beams lets of varying radiation intensities leading to a very high degree of precision.

It refers to the use of multiple spatially inhomogeneous energy beams which converge upon a treatment volume in order to create a conformal and spatially homogeneous dose. This is accomplished using so-called inverse planning where the physician defines a set of ideal dose constraints from the standpoint of minimal and maximal allowed doses to the target structure as well as organs at risk.

Using this technique, high tumoricidal doses can be delivered to the tumours, with normal tissue sparing, thus increasing the cure rates and improving local control of the disease, which was not possible before with conventional 2D/3D conformal modalities.

Thus it is considered a revolution in the field of Radiation treatment. It is ideally suited for irregular/concave shaped tumors and for tumors surrounding radiosensitive structures.

The technique is delivered by the Linear Accelerator machines with Multi Leaf Collimators (MLC), which shape the radiation beam according to the tumour contour. The smaller the leaf width of the MLC, the better the tumour conformality and normal issue sparing. The Novalis TX has the smallest leaf width of 2.5mm, to ensure the best possible conformality.
The PET-CT Scanner combines PET and diagnostic CT to produce a biograph image and measurements, which records in exquisite detail the life process at molecular level of tissues and internal organs from one non-invasive diagnostic procedure. It has superior diagnostic accuracy and patient management and is used clinically to detect & stage cancer, plan treatment and monitor therapy. PET-CT Scanner images are transferred to 3-D Planning System.

PET-CT Guided Radiotherapy is planned based on Cellular & Molecular Diagnostic information given by PET-CT Scanner. Treatment is based at cellular & molecular level.
High Dose Rate (HDR) Brachytherapy

As opposed to External Beam Radiation, in Brachytherapy, the source of radiation is placed within or adjacent to tumor tissue itself.

This process is useful for cervical, breast, esophageal, bronchial, bile duct cancers etc. The HDR Brachytherapy Unit has its own dedicated and computerized 3-D Treatment Planning System and the treatment is delivered in a few minutes.
Image-guided Radiotherapy (IGRT)

It is the integration of various radiological and functional imaging techniques in order to perform high-precision radiotherapy. The main aim is to reduce setup margins which could occur during daily positioning, and internal margins occurring due to the patient body’s respiratory or bowel movements, and to account for target volume changes during radiation therapy, such as a tumor volume decrease or weight loss (Adaptive radiotherapy). This is not only an IMRT technique; it enables various radiotherapy techniques, including IMRT, to be delivered more accurately. Therefore, it will allow further dose escalation and/or conformal avoidance than IMRT alone, which will lead to improved treatment outcome.

In Novalis Tx, IGRT is provided by
- The ExacTrac (R) system that automatically aligns the target volume with the treatment beam based on infrared tracking of external body markers. It also uses automated registration of bony structures and implanted radiopaque markers using stereoscopic X-ray imaging.
- The Exactrac 6D Couch enables fast and precise couch correction in all directions to account for any misalignment or rotation.
- For the treatment of tumors that move with respiration, a respiratory gating system, which makes use of implanted markers, is being used.
- Daily Cone Beam CT, to match the initial treatment planning CT is done to ensure the best precision.
- On Board kV X-ray imaging
**Stereotactic Radiotherapy (SRT)**

- Stereotaxy refers to using a precise three-dimensional mapping technique to guide a procedure.
- Stereotactic Radiotherapy is delivered by several beams that are precisely focused on a three-dimensionally localized target.
- A special frame or a thermoplastic mask is used for CNS tumors, while a body frame may or may not be used for extracranial sites.
Stereotactic Body Radiation Therapy (SBRT)

- SBRT is a novel cancer treatment strategy.
- Conventional external beam radiotherapy is typically administered in daily doses, or fractions, in the range of 1.8 to 2.0 Gy to total doses of 60 to 70 Gy or so, with SBRT ultra-high doses per fraction are applied, generally in the range of 10 to 20 Gy per fraction, in an abbreviated, hypofractionated regimen of 5 or fewer fractions.
- Such high doses per treatment were unthinkable in the past because of limitations in treatment delivery technology that raised concerns about potential toxicity if large volumes of normal tissues were exposed to so much radiation in each treatment.
- These are now possible with the best anatomical imaging modalities like MRI, and also biological imaging modalities like PET-CT, MR spectroscopy. The technique is suitable for tumors in the Lung, Liver, Pancreas, Spine and Prostate.
High Definition RapidArc

- HDRC is a volumetric intensity-modulated arc therapy, which can deliver the required dose distribution with one or a few arcs.
- For most treatments, this can be performed within few minutes.
- During the rotation, the dose rate, micro-MLC setting, and speed of the gantry change simultaneously.
- It can also be used for SRS/SRT. RapidArc combines high conformity with significantly shorter treatment times, which reduce the risk of patient or tumor movement, is more comfortable for the patient and allows a higher throughput of patients, enabling lesser waiting times for treatment.
- It consists of a single arc where MLC (max 5 mm/degree and 2.5 cm/s), dose rate (max 600 MU/min), and gantry speed (max 72 s/turn, i.e. ~5 degrees/s) are optimized simultaneously to achieve the desired degree of modulation.
- Our Novalis-Tx has got the latest RapidArc Technology with the HD (High Definition) micro-MLCs having leaf width of 2.5 mm enabling the best accuracy with the fastest treatment times.
Medical Oncology Facilities

The Medical Oncology Department is augmented by a ‘Day Care Centre’ with exclusive specialized staff, trained in oncological emergencies and anti-cancer drug administration.

Bone Marrow Transplantation

Bone marrow is a soft, sponge-like material found inside the bones. It contains immature cells known as hematopoietic stem cells which divide to form more blood forming stem cells. Bone Marrow transplantation is a process that restore stem cells that have been destroyed by high doses of chemotherapy and /or radiotherapy. It is used for management of benign conditions like aplastic anemia, sickle cell disease etc and malignant diseases like lymphoma, leukemia, myeloma and neuroblastoma. Our hospital started the BMT Unit in July 2011 and we have the facility to treat six patients simultaneously in our dedicated BMT unit.
Surgical Oncology

The Surgical Oncology Department has specialists well versed with intricacies of oncological practice, as well as in tune with organ preservation protocols including limb salvage surgery for Osteosarcomas & soft tissue sarcomas.
Head & Neck Oncology
We have a dedicated Head & Neck department exclusively for screening & treatment of head & neck malignancies. Experienced Head & Neck Surgical Oncologists do complex surgeries including skull base procedures, reconstructions, free flaps, function preservation surgeries etc.
Breast Care Clinic

Apollo Hospitals, Hyderabad launched a comprehensive facility for breast cancer and other breast related diseases.

The objective of Breast Clinic is to provide an integrated service staffed by a dedicated multi-disciplinary team specializing in the assessment, diagnosis and treatment of all benign and malignant breast diseases.

It offers comprehensive diagnostic and treatment options for patients who experience breast changes or problems. A multi-disciplinary group of care providers work together to meet the needs of each patient. Services include evaluation of breast abnormalities, breast cancer prevention, screening, diagnostic testing, patient education and comprehensive treatment options.

Bone Sarcoma Clinic

All Bone Sarcoma patients are discussed in all expert tumor board meetings and the best possible treatments like Limb Salvage Surgeries and Neo-adjuvant Chemotherapy are offered for excellent functional outcomes and negligible chances for amputation.

Apollo Cancer Check

The incidence of cancer is multiplying globally. Chance of cure is high if detected early & treatment initiated. We offer a subsidized package to detect malignancies early so as to nip them in the bud. The investigations are relevant to gender and the common cancers in India. These packages are for a nominal Rs. 2550/- for women and men. They include CBP with ESR, Urine Routine, X-Ray Chest-PA view, Ultrasound Abdomen, Stool for Occult Blood, Oral Examination, Hbs Ag, Discussion (risk factors), and free consultation with Oncologist with the Pap smear & Mammogram for women.

Supportive Services and Rehabilitation

The hospital is supported by a support group consisting of Medical Counselors, Physiotherapist, Speech Therapist, Dietician and others, providing comprehensive care to patients.
NovalisTx

NovalisTx radiosurgery & radiotherapy is changing the face of cancer treatment, and has already helped thousands of people continue to go to work, spend time with family and friends and take part in their favourite activities, while fighting cancer.

NovalisTx Radiosurgery incorporates a powerful linear accelerator, which rotates around the patient to deliver treatment beams anywhere in the body from virtually any angle.

A set of sophisticated image-guidance and motion management tools provide clinicians with detailed information about the shape, size and position of the targeted lesion, guide patient set-up and positioning and monitor motion during treatment.

- It continuously tracks patient and tumor motion and automatically adjusts the beam of radiation to maintain the highest possible level of treatment accuracy.
- It has several advantages in that it is
  - Precise
  - Fast
  - Versatile
NovalixTx Radiosurgery can treat non-cancerous and cancerous conditions of the entire body such as:

- Arteriovenous malformation (AVM)
- Cavernous angiomas
- Trigeminal neuralgia
- Intractable seizures
- Parkinson's disease
- Brain metastases / Gliomas
- Acoustic Neuromas
- Pediatric brain tumors
- Recurrent brain tumors
- Pituitary adenomas
- Meningioma's of the skull base
- Craniopharyngiomas
- Spine Tumors / Metastases
- Prostate Cancer /Metastases
- Liver Tumors / Metastases
- Lung Tumors / Metastases
SUMMARY

- The Apollo Cancer Institute is the leading and the best cancer hospital in India, having comprehensive state-of-the-art facilities and a coordinated multidisciplinary approach of the treatment of patients suffering from cancer.

- The Positron Emission Tomography (PET) scans provides unparalleled access to tumors anywhere in the body.

- The Novalis radiosurgery platforms provide better treatment of cancer aiming at greater precision, faster treatment delivery, more flexible treatment scheduling and a higher level of patient comfort.

- The blood and bone marrow transplantation center, India has performed many transplantations with an excellent success rate.

- The specialized clinics offer comprehensive care to the patients.

- Expert Medical Counselor, Physiotherapist, Speech Therapist and Dietician services provide the comfort and care required to recoup post treatment.

- All of the undoubtedly making the Cancer Centers of the Apollo Hospitals Group the best cancer hospitals in India.