

## RT Techniques

#### **Volumetric Modulated Arc Therapy (VMAT)**

- Volumetric Modulated Arc Therapy (VMAT), also known as RapidArc, represents an advanced radiotherapy technique
- During VMAT treatment, the machine rotates 360 degrees while simultaneously adjusting the intensity, shape and dose rate. This allows for precise targeting of irregularly shaped tumors, efficiently controlling disease progression and providing symptomatic relief
- Compared with conventional radiotherapy, VMAT offers the distinct advantage
  of significantly reduced treatment time, often just a few minutes. Patients are
  spared from prolonged immobilization on the treatment couch, reducing
  discomfort during treatment

#### **Stereotactic Body Radiation Therapy (SBRT)**

• The treatment sessions of Stereotactic Body Radiotherapy (SBRT) are reduced, ranging from 1 to 5, effectively controlling tumor growth and relieving symptoms in a short time. SBRT is ideal for treating SVCO, hemorrhagic tumors, spinal cord compression, or fungating tumors

#### **Three-Dimensional Conformal Radiation Therapy (3DCRT)**

• Three-Dimensional Conformal Radiation Therapy (3DCRT) arranges radiation beam from multiple angles, achieving highly concentrated and homogenous dose distribution to relieve pain and symptoms promptly

#### **Image-Guided Radiotherapy (IGRT)**

• Image-Guided Radiation Therapy (IGRT) is fully utilized in our centre. Image verification is conducted before each treatment, with a six-dimensional treatment couch to adjust patient positioning, ensuring precise tumor localization and minimizing displacement errors

## Treatment Overview



Palliative cancer radiotherapy aims to relieve symptoms and improve the quality of life for patients with advanced disease, such as Superior Vena Cava Obstruction (SVCO), hemorrhagic tumors, spinal cord compression, or fungating tumors. Utilizing techniques including 3D Conformal Radiation Therapy (3DCRT), Volumetric Modulated Arc Therapy (VMAT), or Stereotactic Body Radiation Therapy (SBRT), treatment plans are individualized according to tumor characteristics and patient-specific needs, typically consisting of 5 to 10 sessions, maximizing symptomatic relief.

### Features

#### <u>Artificial Intelligence (AI)</u>

• By incorporating the latest medical technologies, artificial intelligence is integrated into dosimetry procedures to enhance both efficiency and safety

#### **Tattooless Skinmark**

- Delivers precise treatment using the IGRT technique without permanent tattoos
- Eliminates pain and invasive piercing from tattoo marking procedure
- Eliminates cosmetic concerns

#### **Professional & Efficient**

- Surface-guided and IGRT techniques reproduce simulation position accurately
- Employs computerized automatic tracking and verification technology, imaging localization can be completed quickly before each treatment
- With the VMAT technique, treatment duration is reduced (substantially from 30 minutes to less than 10 minutes), increasing treatment effectiveness and accuracy

#### **Same-day Treatment**

• Emergency radiotherapy services are provided for patients in urgent need, allowing for same-day imaging localization, dose calculation and commencement of treatment to ensure timely access to appropriate care

# Technology Development & International Awards

We are dedicated to advancing and refining treatment technologies. Actively participating in international radiation dosimetry competitions, we have been recognized with multiple awards in various cancer contests. For more details, please refer to the "Radiotherapy Planning Awards" brochure.

## RT Procedures & Notice

#### 1) First Consultation

Our oncologists will listen and understand your situation carefully to tailor the most suitable radiation therapy scheme for you.

#### 2) Simulation & Computed Tomography

A customized immobilization device will be created based on your body contour to ensure stable positioning, followed by a CT scan specifically for radiation dosimetry. This helps the oncologist to define treatment area and prescribe radiation dose accurately.

#### 3) Treatment Plan Dosimetry

Our dosimetry team will compute a personalized treatment plan that precisely targets tumor cells while minimizing damage to surrounding healthy tissues.

#### 4) Imaging Verification

Before each VMAT treatment, X-ray On-Board Images (OBI) or Cone-Beam CT scans (CBCT) will be used to verify target localization and positioning accuracy.

#### 5) Treatment Position Verification & Adjustment

After image verification, we utilize a Six-Degree-of-Freedom (6 DoF) couch to adjust positioning effectively, enhancing treatment precision.

#### 6) Treatment Delivery

Radiotherapy will be delivered according to your individualized treatment plan. Each session for palliative cancer treatment typically lasts about 10 minutes.

#### 7) Post-Treatment Care and Follow-Up

Throughout the treatment course and following completion, we closely monitor both therapeutic effectiveness and potential side effects.

# Possible Side Effects & Management

#### **Fatigue**

 Get plenty of rest, maintain a balanced diet, and ensure adequate nutritional intake

#### **Pain or Discomfort at Treatment Area**

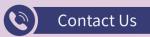
Consult your oncologist for medication to relieve symptoms

## Service Commitment

Our team has extensive experience in dosimetry and commits to completing your treatment planning and starting treatment within one week.

# kT Charges

We commit to providing professional and high-quality medical services to patients from all backgrounds at reasonable fees. For details on charges, please refer to the "Radiation Therapy Charges" or call 2200 3493 for inquiries.



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Monday - Friday

09:00-18:00

**Saturday** 

09:00-12:30

Sunday & Public Holiday
Closed

