

- **High Dose Rate (HDR) Brachytherapy**

HDR Brachytherapy is able to deliver extremely high doses of radiation therapy to tumours with minimal normal tissue effects through the use of Iridium-192 sources placed directly at the tumour site through the use of specialised applicators. HDR Brachytherapy is used in gynaecological tumours such as cervical and uterine cancers, as well as prostate and breast cancer treatments.

## WHAT ARE THE POTENTIAL SIDE EFFECTS?

This may depend on the specific area of treatment and can include:

- Fatigue
- Upset stomach
- Diarrhoea or loose stools
- Change in texture of skin
- Nausea and vomiting
- Irritation of the vagina / vulva

Many of these side effects can be controlled with medication. Please inform your doctor or nurse if you are experiencing any discomfort so that they can help you feel better. Long term side effects include: vaginal stenosis (scar tissue which makes the vagina narrower), vaginal dryness, weakened bones, swelling of the leg(s).

## CARING FOR YOURSELF DURING AND AFTER RADIATION THERAPY

- **Be careful caring for the affected area**

Avoid hot or cold packs and only use lotions and ointments after checking with your doctor or nurse. Clean the affected area with lukewarm water and mild soap.

- **Rest well**  
Get plenty of rest during treatment.
- **Check your medications**  
Inform your doctor if you are taking medications, to make sure that they are safe to use during radiation therapy.
- **Stop smoking**  
Immediate benefits of less airway irritation with less cough and shortness of breath.
- **Eat well**  
Makes you feel better, have less side effects and allows you to fight infections better.
- **Stay active (even gentle short bouts of activity helps!)**  
Improves mood, reduces fatigue and helps with appetite.
- **Enlist support**  
Mental and emotional health is as important as physical health. It might be helpful to talk to counsellors or join a cancer support group.
- **Have a caregiver who can manage your care**  
It is good to have someone who can help to keep track of hospital appointments and medications prescribed.

### Informed Consent

Informed consent is an important process before the start of radiation therapy. Your doctor will explain to you the benefits and risks of the recommended therapy in detail during consultation, before the initiation of the treatment.

*Information in this brochure is given as a guide only and does not replace medical advice from your doctor. Please seek advice from your doctor if you have any questions related to the treatment, your health or medical condition.*

## CONTACT INFORMATION



### Nearest MRT Station: Kent Ridge Station (Circle Line)

Commuters can alight at the Kent Ridge Station, right at the doorstep of the NUH Medical Centre. Please exit the station via Exit C. NCIS is located on levels 8, 9 and 10 which are accessible via Lift Lobby B.

### National University Cancer Institute, Singapore (NCIS) Radiation Therapy Centre (RTC)

NUH Medical Centre, Level 8  
 Opening Hours : 8.30am – 5.30pm  
 (Mon – Fri, except Public Holidays)  
 Appointment Line : (65) 6773 7888  
 (8.30am – 5.30pm, Mon – Fri,  
 except Public Holidays)  
 Email : CancerApptLine@nuhs.edu.sg

### For all other general enquiries

National University Cancer Institute, Singapore (NCIS)  
 Email : ncis@nuhs.edu.sg  
 Website : www.ncis.com.sg



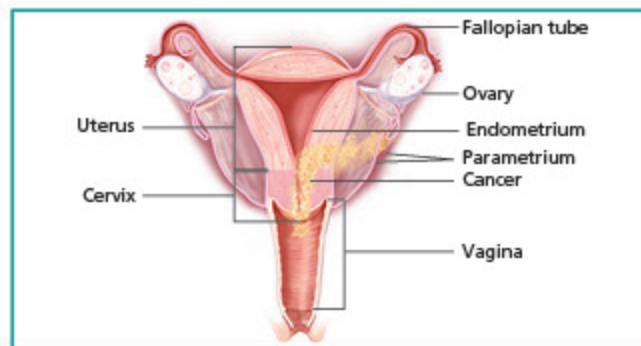
National University Hospital  
 5 Lower Kent Ridge Road, Singapore 119074  
 Tel: 6779 5555 Fax: 6779 5678  
 Website: www.nuh.com.sg

# Radiation Therapy for GYNAECOLOGICAL CANCERS



## WHAT ARE GYNAECOLOGICAL CANCERS?

Gynaecological cancers refer to cancers that begin in the women's reproductive system. These include cervical, endometrial, and ovarian cancer.



## WHAT ARE THE SIGNS AND SYMPTOMS?

### Cervical/Endometrial Cancer:

- Abnormal vaginal bleeding
- Pain during sex
- Unusual vaginal discharge
- Pain in the lower belly
- Longer and heavier menstrual bleeding

### Ovarian Cancer:

- Pressure or pain in the abdomen, pelvis, back, or legs
- Swollen or bloated abdomen caused by build-up of fluid or a tumour
- Nausea, indigestion, gas, constipation, or diarrhoea
- Trouble eating or feeling full quickly

- Feeling very tired all the time
- Less common symptoms include:
  - Shortness of breath
  - Feeling the need to urinate often
  - Unusual vaginal bleeding (heavy periods, or bleeding after menopause)

## HOW ARE GYNAECOLOGICAL CANCERS DIAGNOSED?

### Cervical/Endometrial Cancer:

- Colposcopy
- Cone Biopsy

### Ovarian Cancer:

- Physical Exam
- Pelvic Exam
- Blood Tests
- Ultrasound
- Biopsy
- Laparoscopy

## WHAT ARE THE DIFFERENT TYPES OF TREATMENT?

Treatment depends on the stage of cancer, as well as the general medical condition of the patient.

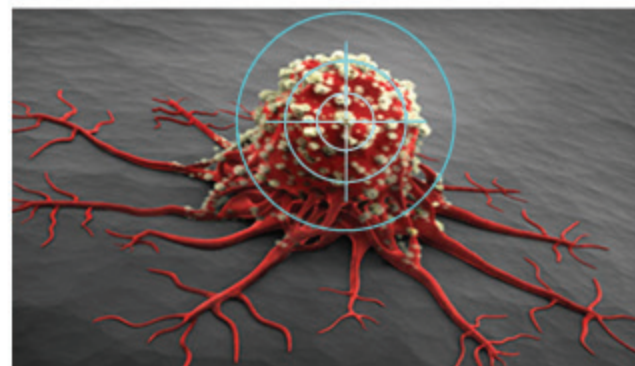
**Cervical Cancer** – There are three main types of surgery for cervical cancer: (1) Radical trachelectomy, (2) Hysterectomy, and (3) Pelvic exenteration. Radiation therapy may be given alone, before surgery, or instead of surgery to shrink the tumour. Chemotherapy may be used to treat advanced cervical cancer and may be combined with radiation therapy to cure cervical cancer, or it can be used as the only treatment for advanced cervical cancer.

**Endometrial Cancer** – Surgery followed by radiation therapy is the main treatment for Endometrial Cancer. Chemotherapy may be used in patients with advanced disease.

**Ovarian Cancer** – For ovarian cancer, most women have surgery and chemotherapy.

## WHAT IS RADIATION THERAPY?

Radiation therapy treats cancer by using high-energy X-rays generated from a radiation therapy machine to destroy the cancer cells. It inhibits cancer cells from multiplying by delivering ionising radiation to destroy cancer cells whilst sparing normal tissues. When these cancer cells die, the body naturally eliminates them. Healthy tissue is then able to repair itself in a way cancer cells cannot, and this leads to a much higher proportion of tumour cell death compared to normal cells.



## HOW IS RADIATION THERAPY DONE?

1. **Consultation:** The Radiation Oncologist determines the most appropriate method and discusses with you the treatment intent, schedule, risks and side-effects.
2. **Mark-Up and Simulation:** A CT scan of the treatment area will be obtained, while three small full-stop size marks are made to ensure accurate positioning during your daily treatment.

3. **Treatment Planning:** A multidisciplinary team produces a customised treatment plan for you.

4. **Treatment:** Radiation therapy for gynaecological cancers is delivered daily (Mondays to Fridays) for six weeks. Each treatment session lasts 10 minutes.



5. **Follow-up:** Your first follow-up appointment varies depending on how you do during treatment, and is usually about 6-8 weeks after you have completed the course of radiation therapy.

## WHAT ARE THE TYPES OF RADIATION THERAPY AVAILABLE FOR GYNAECOLOGICAL CANCERS?

- **3-Dimensional Conformal Radiation Therapy (3DCRT)** 3DCRT delivers very precise doses of radiation to the affected area and spares surrounding normal tissue through a machine called a linear accelerator.
- **Intensity Modulated Radiation Therapy (IMRT)** IMRT involves varying (or modulating) the intensity of the radiation being delivered during treatment. Compared to 3DCRT, this technique can deliver more tightly focused radiation beams to cancerous tumours while reducing the amount of radiation to surrounding healthy tissues.