

of these side effects will improve over time and some can be controlled with medication. Inform your doctor or nurse if you are experiencing any discomfort so they can help you better.

- Frequent urination
- Difficult or painful urination
- Blood in the urine
- Urinary leakage
- Abdominal cramping
- Diarrhoea
- Painful bowel movements
- Rectal bleeding
- Rectal leaking
- Fatigue
- Sexual dysfunction, including diminished erectile function or decrease in the volume of semen
- Skin reactions
- Secondary cancers in the region of the radiation

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



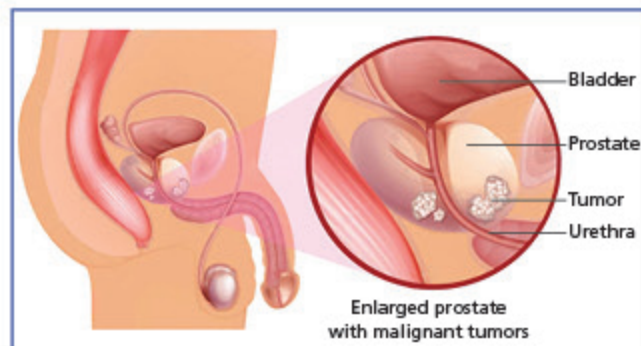
National University Hospital
 5 Lower Kent Ridge Road, Singapore 119074
 Tel: 6779 5555 Fax: 6779 5678
 Website: www.nuh.com.sg

Radiation Therapy for PROSTATE CANCER



WHAT IS PROSTATE CANCER?

The prostate is a gland found exclusively in males. Located in front of the bladder, the prostate is about the size of a walnut and produces some of the fluid that protects and nourishes sperm cells in semen. Prostate cancer occurs when cells in the prostate start to grow uncontrollably.



WHAT ARE THE SIGNS AND SYMPTOMS?

- Frequent urination (especially at night)
- Weak urinary stream
- Inability to urinate
- Interruption of urinary stream
- Pain or burning sensation during urination
- Blood in the urine
- Bone pain
- Weight Loss
- Loss of appetite

HOW IS PROSTATE CANCER DIAGNOSED?

- Digital rectal examination

- Prostate-specific Antigen (PSA) test
- Transectal Ultrasound Guidance (TRUS) and Biopsy

WHAT ARE THE DIFFERENT TYPES OF TREATMENT?

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

Surgery – A procedure called radical prostatectomy may be recommended if the tumour is localised at the prostate. It involves the complete removal of the prostate.

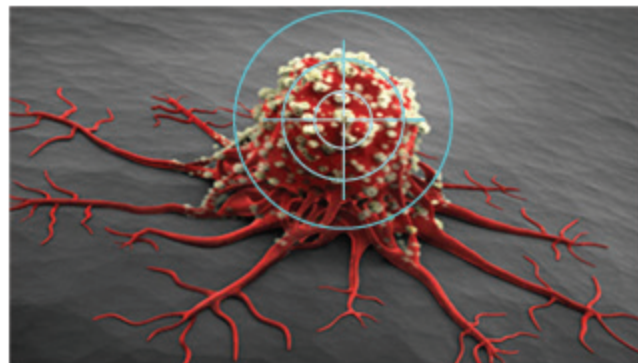
Chemotherapy – Though uncommon, chemotherapy helps improve symptoms of prostate cancer if hormone therapy is ineffective.

Hormone Therapy – Hormonal therapy is commonly used to treat prostate cancer when it has spread or in combination with radiation therapy when the cancer is locally advanced or high risk.

Radiation Therapy – Radiation therapy uses high-energy targeted X-rays to treat cancer.

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 prostate cancer is delivered daily (Mondays to Fridays) for about eight weeks. Each treatment session lasts 20 minutes.



5. **Follow-up:** Your first follow-up appointment varies depending on how you do during treatment, and is usually about four to 12 weeks after you have completed the course of radiation therapy.



WHAT ARE THE TYPES OF RADIATION THERAPY AVAILABLE FOR PROSTATE CANCER?

- **3-Dimensional Conformal Radiation Therapy (3DCRT)**
3DCRT delivers very precise doses of radiation to the prostate 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.
- **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.

WHAT ARE THE POTENTIAL SIDE EFFECTS?

You will experience minimal side effects in the first one to two weeks after your radiation therapy session. Many