

Craniospinal Radiotherapy

I. Introduction

Radiotherapy involves the use of high energy X-rays or electron beam to destroy the tumour while trying to preserve normal tissue as far as possible. Although X-rays also affect normal cells in the area treated, their ability to recover is usually better than tumour cells.

II. Procedure

- You will not experience any pain during the treatment procedure.
- Before each session, our staff will make sure that you are in the correct position for treatment. You will then stay in the treatment room alone for minutes while radiotherapy is being delivered.
- You will be closely monitored through a close circuit television system. You can speak to us using the intercom if necessary.

III. Risks & Complications/Side Effects

- Although radiotherapy is an effective treatment for your disease, it can cause short-term and long-term side effects. Our medical and nursing staff will offer appropriate treatment to help you complete the course of radiotherapy and recover from your illness.
- Side effects may include, but are not necessarily limited to the ones listed below. Each patient reacts differently and may experience none, some, or all of the complications to a varying degree of intensity. If other types of treatment such as chemotherapy are given in conjunction with radiotherapy, some of the side effects may be exacerbated. Complications are also more common in patients who had previous surgery or radiotherapy to the area treated.

A. Early / Short Term Side Effects

These may occur during radiotherapy, but usually disappear several weeks after completing the treatment.

Common

1. Tiredness, somnolence, nausea and decreased appetite. Small frequent meals is advised.
2. Temporary hair loss
3. Skin reactions (dryness, reddening, irritation or darkening in the area treated)
4. Bone marrow suppression (anaemia, low platelet count, low white cell count)
5. Sore throat

Uncommon

1. Severe and persistent headache, nausea which may sometimes require steroid to relieve brain edema
2. Skin blistering or peeling
3. Acute otitis media causing ear pain or ear discharge
4. Difficulty in swallowing
5. Patients with spinal cord / nerve root compression: Acute deterioration in limb power or neurological status. This may be caused by swelling of the tumour and neural tissue with radiotherapy and will usually improve with appropriate treatment. Some patients continue to deteriorate despite radiotherapy. This is mainly due to tumour progression and lack of response to radiation, rather than radiotherapy itself.
6. treatment of the lower thoracic or lumbar spine: Inflammation of the stomach causing indigestion, heartburn or ulcer
7. treatment of the lumbosacral spine: Bowel inflammation resulting in cramps and diarrhea; bladder inflammation with frequency and pain on urination
8. treatment of the sacral spine in female: Disturbance in the menstrual cycle
9. postoperative irradiation: Impaired wound healing

B. Late / Long Term Side Effects

These may occur months or years after radiotherapy and may persist.

Common/ Uncommon

1. Permanent hair loss in the area treated
2. Hearing loss
3. Hypothalamic-pituitary dysfunction
4. Hormone deficiency
5. Growth retardation, delayed puberty, short stature, scoliosis
6. Primary hypothyroidism
7. Cataract
8. Scarring and stiffness of muscle and soft tissue in the area treated
9. Neurocognitive impairment, learning difficulty, poor memory; altered mood and behavioural problem
10. L hermitte's syndrome (electric sensation that runs down the back and into the limbs)
11. Treatment of the sacral spine in female: Damage to the ovaries resulting in early menopause and infertility
12. Male infertility
13. Cerebrovascular events

Rare

1. Bone fracture in the area treated
2. Severe radiation injury to bone or soft tissue in the treated area causing chronic pain, infection or ulceration. Surgery may be required.
3. Spinal cord or nerve damage causing pain, loss of strength or feeling in the arms and / or legs, and / or loss of bowel or bladder control
4. Treatment of the cervical or thoracic spine: Narrowing of the oesophagus causing problems with swallowing
5. Treatment of the thoracic spine: Heart problems such as irregular heartbeats, ischaemic heart disease, inflammation and impairment of heart function
6. Treatment of the thoracic spine: Lung inflammation and scarring, which may cause dry

cough, shortness of breath and low grade fever

7. Treatment of the lower thoracic or lumbar spine: Stomach injury with persistent indigestion, pain, ulceration and sometimes bleeding

8. Treatment of the lumbar spine: Kidney damage resulting in impaired kidney function and / or high blood pressure

9. Damage to the brain

10. Radiation induced second malignancy

Note:

- On rare occasions, patients may develop severe life-threatening complications due to radiotherapy and die.
- It may be possible that the intended treatment outcome cannot be achieved, the disease may not be alleviated and it may recur or progress in the future.
- Despite all precautions, unpredictable and unpreventable adverse outcomes may occur after treatment. Please kindly read and fully understand the content above before deciding on undergoing the treatment mentioned.

IV. Before the Treatment/ Preparation

1. The treatment plan and radiotherapy schedule depends on the type & location of the tumour, as well as your health condition. Your doctor will discuss the details with you and explain how you can cope with the treatment side effects.
2. Sometimes skin tattooing or a special mould will be made for you to improve treatment accuracy .
3. Our staff will take written, photographic and radiographic records of your treatment details for radiotherapy planning and future reference. These records may be used for research or scientific publication but your confidentiality will be maintained at all times.
4. Avoid applying ointments or creams on the area treated before you attend your

radiotherapy session. No other preparation is required unless specific instructions are given by our staff.

Note:

- **Radiotherapy can cause teratogenicity. During radiotherapy, both male and female patients (if applicable) should take contraceptive measures.**
- **Radiotherapy may affect the function of your pacemaker. Please let us know if you have a cardiac pacemaker.**

V. After the Treatment

1. You may feel tired or experience other side effects with radiotherapy. Please consider having a friend or relative accompany you to the hospital if possible.
2. Our doctors will assess you on a regular basis and take appropriate measures to minimize your treatment reactions.
3. If you feel unwell anytime during the treatment period, please inform our staff.

VI. Follow up

1. Recovery varies from person to person, some people can go back to work shortly after completion of treatment.
2. After completing the whole course of radiotherapy, a follow-up appointment will be arranged to assess your response to treatment and look out for complications. Please attend your appointment as scheduled.
3. You must follow instructions strictly on taking medication as directed.

VII. Remarks

This is general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. In special patient groups, the actual risk may be different. For further information please contact your doctor.