



RADIATION TREATMENT PROCESS

Overview:

Radiation therapy uses waves of energy, such as light or heat, to treat cancers, other tumor and conditions. The form of radiation used in cancer therapy is a high-energy type known as ionizing radiation.



Pre Procedure:

- After the radiation planning, treating doctor would go through the CT scan and all the clinical details including prior MRI/PET/CT to exactly define the area to be treated and would complete the dose calculation process along with the medical physicists.
- Once the treatment plan is approved by the team, you would be taken up for the 1st treatment on the given date and time.
- You will typically receive radiation treatments 5 days a week on an outpatient basis for a certain period of time. You will be advised about the total number of radiation sessions by your treating doctor.
- For those being treated to the abdominal regions, you will be asked to come on an empty stomach (2-3 hours fasting) prior to your appointment time.
- For those being treated to the pelvis region, you will be instructed by the technologists about the water protocol prior to your treatment.
- The treatment session will take around 10-30 minutes.

During Procedure:

- You would be asked to change to a treatment gown before taking inside the treatment room.
- The radiation treatments are painless and will be administered by a machine called a Linear Accelerator. The machine will move around you during your treatments to deliver the radiation (x-rays).
- Radiation cannot be seen or felt while it is being given. This treatment does not make you radioactive.
- During your treatment session, you will have to lie down on the treatment couch which is similar to the CT scan table. The treating staff will position you the same way you were positioned during your CT simulation session.
- After ensuring the correct position with the help of the positioning marks/tattoo, minor adjustments in position would be done for accuracy. Patients are requested to be in as comfortably breathing without moving from the set treatment position.
- All the treating staff/radiation therapists would leave the treatment room and control the treatment machine from the treatment console situated outside the treatment room.
- The radiation treatment machine-linear accelerator will rotate around the patient once the machine is switched on and acquires an image to confirm the exact area to be treated, following which the machine rotates couple of times around the patient and treats the desired area. The machine does not touch the patient and would be at a distance from the patient.
- The treating team would monitor the entire process through a video from the treatment console situated outside the treatment room. If the patient feels any difficulty, while the treatment is going on, they are requested to raise their hand, during which the treatment would be interrupted and the treating staff would enter the treatment room and ensure the comfort and safety of the patient.
- Once you are positioned for your treatment, the staff will leave the room and observe you through cameras that are fitted in the room. If you feel uncomfortable at any point of your treatment, you can raise your hand.

Post Procedure:

- Once you finish your radiation therapy treatments, you will be met by your radiation oncologist who will advise you about the management of side effects, your follow ups and medications.

- The side effects would vary and would be different for each patient, depending on the area treated and the tolerance of each individual.
- You are requested to share their experience with the treating pain (radiation therapist/radiation oncologist) so that the entire treatment is monitored and the side effects are managed as appropriate.
- Tiredness-which can be overcome by adequate rest, moderate exercises as tolerated, good intake of food and fluids.
- You may develop skin reaction due to radiation treatment and this varies based on the area treated and the individual skin. Some individual may not have any skin reaction at all.
- Drink plenty of fluids every day during treatment (ideally sugar-free).
- Eat regularly and try to keep a balanced diet. If you don't feel like big meals, try eating little and often. The dietitian can help to plan a diet for you if necessary.

Skin care:

- You can take bath or wash the treated area without vigorously rubbing over the treated area.
- Mild soap can be used over the treated area.
- After washing the treated area/taking bath, can dry the treated area with the soft towel by gently dabbing and not vigorously rubbing the treated area.
- Moisturising cream may be applied over the treated area, however, this needs to be clarified from the treating doctor.
- Do not use talcum powder/dressings/plaster over the treated area.
- Restriction on shaving or waxing the treated area needs to be clarified with the doctor.
- Avoid exposing the treated area to hot water bags / ice packs or sunlight.
- The skin care needs to be continued for at least a month or till the skin has recovered from the radiation-related side effects.
- Patients are advised to wear loose fitting cloth, preferably cotton which does not irritate the treated area. Collar, straps, underwired bra can cause irritation if the treatment area happens to be in those respective regions.
- Do not drink spirits, eat spicy food or very hot or very cold food if you are having treatment to your mouth, neck or chest, but ask the radiographers if you would like more information.
- Depending on the part of your body being treated you may feel nauseous or be sick during your course of treatment. This does not happen to everyone. If you do feel sick, please tell your radiation therapist or nurse as it can be controlled by tablets or diet.
- Hair loss: If you undergo treatment in the head and neck /brain regions you may lose hair. This depends on the area which is treated. The loss of hair may be temporary or permanent, which would be explained before the start of treatment or can be clarified with the treating doctor.
- **Nutrition:** it is important to consume adequate food and ensure weekly monitoring of the weight. Weight loss would indicate reduced food intake, which would affect the overall treatment and the patients would feel tired. If it is difficult to have the regular food at 3 to 4 times a day, food intake can be split at frequent intervals to ensure the daily food intake is met. It is good to maintain a diet record to understand whether there is any reduced intake after starting the radiation treatment.
- You are advised to quit smoking /consuming alcohol.