

Table Q.1 Cancer Treatment side effects analysis

SIDE EFFECTS	TRADITIONAL TREATMENTS			RADIOWAVE THERAPIES	
	Chemo	Radiotherapy	Surgery	GMI / UHF	UHF / XRT
1. Damages normal healthy tissues (whilst attacking reproducing cancer cells).	YES	YES	YES	no	no
2. Slows production of blood cells by killing them off as they develop.	YES	YES	no	no	no
3. Anaemia: low red blood cell count.	YES	no	no	no	no
4. Low white blood cell count (increases risk of infection).	YES	YES	no	no	no
5. Bleeding or bruising (due to low platelet count).	YES	no	no	no	no
6. Lowered resistance to infection.	YES	no	no	no	no
7. Depression.	YES	no	no	no	no
8. Pain and weakness in chest and arms.	no	no	YES	no	no
9. Skin: (Dryness and peeling of the skin. If desquamation occurs from high doses, crusts will form. Later, thinning of the skin may occur). Sometimes the skin may turn red and blotchy as if sunburned: may also be itchy and irritating. Skin may have a 'moist reaction' i.e. the area of skin exposed to radiation may become wet and sore.	no	YES	no	no	no
10. Dry skin or rashes. More sensitive to sunlight: discolouring of skin.	YES	no	no	no	no
11. Difficulty breathing deeply/Shortness of breath.	no	no	YES	no	no
12. Difficulty turning over.	no	no	YES	no	no
13. Mouth sores.	YES	no	no	no	no
14. Menopause (Radiotherapy to the pelvis can cause menopause).	YES	YES	no	no	YES
15. Fluid retention.	YES	no	no	no	no
16a. Aching of joints in hands and feet.	YES	no	no	no	no
16b. Changes in concentration and memory.	YES	no	no	no	no
17. High fever.	YES	no	no	no	no
18. Hair loss or thinning.	YES	YES	no	no	no
19. Digestive system problems: diarrhoea / constipation.	YES	YES	no	no	no
20. Changes in eating habits: loss of appetite. May lose weight: sometimes it is painful to chew, so liquid diet may be recommended.	no	YES	no	no	no
21. Nausea or vomiting.	YES	YES	no	no	no
22. Taste dysfunction and smell changes. (Complications can lead to secondary complications such as dehydration, dysphagia (difficulty in swallowing), and malnutrition).	YES	YES	no	no	no



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23. Change in emotions: feelings of anxiety, loneliness, helplessness and depression. Radiation creates hormone imbalance.	no	YES	no	no	no
24. Muscle and nerve problems.	YES	no	no	no	no
25. Radiation to the abdomen may result in swelling and inflammation to the oesophageus or intestines, causing nausea, vomiting, or diarrhoea.	no	YES	no	no	no
26. CNS = central nervous system – damage from highly dosed areas of brain / spinal cord.	no	YES	no	no	no
27. Lung problems and difficulty breathing: coughing excessively.	YES	YES			
ARP = Acute radiation pneumonitis = (individuals with very sensitive lung tissue) means lung reaction to X-rays will cause permanent respiratory crippling + 30% death rate.	YES	YES	no	no	no
28. Irritated bladder.	YES	YES	no	no	no
29. Swelling and soreness of mucous membranes.	YES	YES	no	no	no
30. Damage to body organs.	YES	YES	no	no	no
31.1 Cataracts	no	YES	no	no	no
31.2 Cataracts – with lense shielding during radiotherapy	no	no	no	no	no
32. Shortness of breath. (Refer No.18 herein).	YES	YES	no	no	no
33. Kidney and bladder effects.	YES	YES	YES	no	no
34. Bone marrow depression.	YES	YES	no	no	no
35. Scarring (associated with atrophy of accessory tissues).	no	YES	YES	no	no
36. Mucous membranes (development of Mucositis): complications can lead to secondary complications such as dehydration, dysphagia (difficulty in swallowing), and malnutrition.	YES	YES	no	no	no
37. Oral discomfort.	YES	YES	no	no	no
38. Irritating cough. (When radiation treatments include the chest area, the lungs can be affected – specific damage to some individuals. This keeps the lungs from fully expanding and patients may experience shortness of breath or cough.) (Refer No.18 herein).	no	YES	no	no	no
39. Onset of telangiectasis (areas of dilated blood vessels: from treatment to breast(s) 10 years later.	no	YES	no	no	no
40. Radiation enteritis: functional disorder of the large and small bowel after radiation therapy to the abdomen, pelvis, or rectum. (Diarrhoea and urinary symptoms).	no	YES	no	no	no



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41. Radiation of the head and neck can irreversibly injure oral mucosa, vasculature, muscle, and bone. This can result in xerostomia (dry mouth), rampant dental caries (not enough saliva), trismus (Spasm of muscles due to lack of saliva), soft tissue necrosis, and osteonecrosis.	no	YES	YES	no	no
42. Salivary gland dysfunction: complications can lead to secondary complications such as dehydration, dysphasia, and malnutrition.	no	YES	no	no	Possible
43. Radiation therapy to large areas of the brain can sometimes result in significant changes in brain function such as memory loss, diminished sexual desire, or poor tolerance for cold weather. Any surgical removal of brain tumour = loss of that area's functions.	no	YES	Possible	no	no
44. Internal radiation to the pelvic area can cause the vagina to be tender and inflamed during and for a few weeks after treatment. Scarring of the area occurs as it heals and can interfere with the ability of the vagina to stretch. The lining of the vagina also gets thinner and may cause light bleeding after intercourse. Note: Only from radioactive implantations.	no	YES	no	no	Possible
45. Xerostomia. (This is not a disease but can be a symptom of certain diseases. It can produce serious negative effects on the patient's quality of life, affecting dietary habits, nutritional status, speech, taste, tolerance to dental prosthesis and increases susceptibility to dental caries. The increase in dental caries can be devastating in many patients and therefore special care must be made to control this condition).	YES	YES	no	no	no
46.1 Infertility – females	YES	YES	no	no	no
46.2 Infertility – males only	YES	YES	no	Possible	Possible
47.1 Sexual problems – females	YES	YES	no	no	no
47.2 Sexual problems – males only	YES	YES	no	no	no
48. Radiation therapy to the pelvis can cause problems with erections by damaging the arteries that carry blood to the penis. The higher the dose of radiation and the wider the section of the pelvis irradiated, the greater the chance that an erection problem will develop.	no	YES	YES	no	Possible
49. Tumour lysis syndrome (most common in treatment for high grade lymphoma or acute leukaemia).	YES	no	no	no	no
50. Incontinence: (radiation therapy can cause incontinence if the urinary sphincter is damaged by the radiation).	no	YES	YES	no	no



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51. Hypothyroidism. (Under production of the thyroid hormone by the thyroid gland).	YES	YES	YES	no	no
52. MOUTH CANCER SURGERY					
52.1 - Tooth loss - radiation therapy can destroy poor teeth, so the patient's loose or bad teeth are usually removed prior to treatment. Dentures then have to be fitted.	no	YES	YES	no	no
52.2 - Need for prostheses - in some cases, diseased bone (such as parts of the jaw) have to be removed and replaced with prosthetic devices. In severe cases, the person may have to be fed indirectly, via a tube either into the nose (nasogastrically) or directly into the stomach (gastrostomy).	no	YES	YES	no	no
52.3 - Scarring and deformity - to make sure that no cancerous cells remain, some healthy tissue bordering the tumour must also be removed during surgery. The excision of a large tumour can cause substantial scarring and deformity. Surgery to the tongue, for example, may cause permanently changed speech and swallowing. Sometimes, skin or tissue grafts from other parts of the body are used to help reconstruct the face and structures of the mouth.	no	no	YES	no	no
52.4 - Infections - most people who have undergone radiation therapy for mouth cancer have an increased susceptibility to mouth infections such as Candida albicans or 'thrush'. Medication helps alleviate this problem.	no	YES	no	no	no
53. THROAT CANCER SURGERY					
53.1 - May require the partial or total removal of the thyroid, tissue or muscle, or the entire larynx (laryngectomy), depending on the location and size of the tumour. Nearby lymph glands may also need to be taken out if the cancer has spread to these. Surgery is sometimes followed with radiation therapy, especially in the case of large tumours.	no	YES	YES	no	no
53.2 - Scarring and deformity - depending on the type of surgery needed and the amount of tissue removed, the patient will have permanent scarring and some degree of deformity.	no	YES	YES	no	no
53.3 - Speech problems - throat surgery can temporarily or permanently affect speech.	no	no	YES	no	no



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54. SMALL BOWEL , GASTROINTESTINAL & PANCREATIC CANCER SURGERY					
54.1 - Gastrointestinal cancer (stomach to rectum) should be removed with prior surgery before Holt Therapies as a risk of bowel perforation exists without surgery. (Note: primary surgery is recommended before undergoing Holt Therapies).	no	no	no	YES	YES
54.2 - After surgery for small bowel cancer and pancreatic cancer the stomach may empty very slowly, causing nausea and vomiting. The place where the oesophageus connects to the stomach can become more narrow, making it hard for the person to swallow. Also, acid from the stomach can enter the esophageus causing heartburn.	no	no	YES	no	no
55. PROSTATE SURGERY					
55. PROSTATE SURGERY:	no	YES	YES	no	no
55.1 - The two major risks are incontinence, the loss of control over the release of urine, and impotence, the inability to get or sustain an erection. You will also lose your fertility and no longer be able to father a child. Other risks include those of any major surgery: pain, risk of infection, blood loss that requires a transfusion, and blood clots in the legs. Most of these problems, such as blood clots, are very rare, or can be controlled with medication, such as pain after surgery.			YES		
56. Wound infections following surgery can usually be taken care of with antibiotics.	no	no	YES	no	no
57. While not common, problems with wound healing include haematoma—an accumulation of blood in the wound—and seroma, an accumulation of clear fluid in the wound. Both usually respond readily to treatment.	no	YES	YES	no	no
58. Sometimes after breast surgery it may be harder than before for lymph fluid to drain from the arm. This can result in swelling, called lymphedema. Note: Relief using Holt's syphon surgical op2.	no	YES	YES	no	no
59. FATIGUE / TIREDNESS					
59.1 Prolonged fatigue as a result of treatment	YES	YES	YES	no	no
59.2 Tiredness during treatment	no	no	no	YES	YES
60. PAIN					
60.1 Pain of any general nature during treatment.	YES	no	no	possible	no
60.2 Pain with bone cancer secondaries during treatment.	no	YES	YES	YES	YES



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60.2 Pain with bone cancer secondaries during treatment.	no	YES	YES	YES	YES
60.3a Pain: nerve damage which can produce a burning sensation or tingling or shooting pain. Most often pain occurs in toes and fingers.	no	YES	YES	no	no
60.3b Pain post treatment (under certain cancer types).	no	no	YES	no	no
60.4 Pain post radiotherapy (certain conditions can be painful post radiotherapy).	no	YES	no	no	no