Radiotherapy Side Effects

10 top tips

1 Almost half of all cancer patients will receive radiotherapy. Early side effects of radiation are characterised biologically by inflammation and oedema and usually resolve within weeks. Late side effects are characterised by fibrosis and may develop years after treatment, often presenting first to primary care.

2 Modern radiotherapy techniques reduce side effects by delivering highly targeted treatment to the tumour and simultaneously reducing dose to surrounding tissues. Examples include IMRT, stereotactic radiosurgery (eg Cyberknife) and protons.

3 Skin toxicity (erythema) is the most common early side effect. Simple emollients (aqueous cream, E45) are usually all that is required. 1% hydrocortisone may be used in severe cases. Perfumed/coloured creams are discouraged due to the high chance of hypersensitivity. Skin usually recovers within 4-6 weeks.

4 Skin in areas of high dose and skin creases (infra-mammary fold, groins etc) may undergo moist desquamation. On broken skin, use dressing products to reduce trauma and infection eg non-adhesive, silicone low adhesion, non- or low-paraffin/petroleum jelly based. Do NOT use Gentian Violet. Detailed guidance is available from the Society of Radiographers and UKONS.

5 Radiotherapy skin reactions are often mistaken for cellulitis. Antibiotics are only necessary in cases of proven infection.

6 Radiation to pelvic organs may cause Pelvic Radiation Disease. This may be identified by use of 3 'Trigger Questions' (ALERT-B); Do you have difficulty in controlling your bowels? Have you noticed any blood from your bottom recently? Do you have bowel or tummy problems that affect your mood, social life, relationships or any other aspect of your daily life? These are detailed in Macmillan's Guide to Managing GI problems after Cancer Treatment.

7 Bladder problems (including haematuria, frequency and urethral stricture) may be a late effect of pelvic radiation. Haematuria should always be investigated. A RADAR key and a Macmillan toilet card may help those with continence issues.

8 Sexual dysfunction after pelvic radiotherapy is common. Women may experience vulvo-vaginal atrophy and a third of patients may develop vaginal stenosis. Use of vaginal dilators may help reduce dyspareunia and improve well-being. Patients report that dilation is easier using a silicone vibrator. Prostate radiotherapy may contribute towards erectile impotence and dry ejaculate.

9 Lymphoedema can occur after axillary radiotherapy in breast cancer, in legs/groins after pelvic radiotherapy or in the face/neck after head and neck treatment. Prompt referral to a lymphoedema specialist is recommended. Macmillan have further patient information about lymphoedema.

10 Endocrine and exocrine glands are very sensitive to radiation and may fail years after radiotherapy. Head and neck radiotherapy patients should have annual thyroid function testing. Whole brain radiotherapy may lead to pituitary failure. Consider endocrinology referral.

This edition: January 2026
Next planned review: January 2029

We make every effort to ensure the information in these pages is accurate and correct at the date of publication, but it is of necessity of a brief and general nature, and this should not replace your own good clinical judgement, or be regarded as a substitute for taking professional advice in appropriate circumstances. In particular check any drug doses, side-effects and interactions. Save insofar as any such liability cannot be excluded at law, we do not accept any liability in relation to the use of or reliance on any information contained in these pages, or third-party information or websites referred to in them.

Macmillan Cancer Support, registered charity in England and Wales (261017), Scotland (SC039907) and the Isle of Man (604). Also operating in Northern Ireland.
MAC19358_Managing_Sexual_Dysfunction_tips

MACMILLAN CANCER SUPPORT